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The Inventions Exhibition.

MUCH remains to be done before the exhibition can be called complete, and probably its term of existence will be considerably advanced before all the now vacant spaces are filled with the exhibits for which they are intended, and all which is now in process of arrangement has been marshalled into complete order. In one sense this is, perhaps, hardly a disadvantage to the undertaking. Public interest, when it has exhausted its first phase and the novelty of the collection is beginning to wear off, will be kept up and stimulated by fresh developments. It must not be supposed, however, that the exhibition is by any means, even now, in so incomplete a state as some may have been led to suppose by the graphic accounts which one or two daily papers gave of the state of things a day or two previously to the opening. The great central avenue, devoted to fire-arms, railway plant, and "prime movers" is complete in its general arrangement, and so are a good many other portions. Our old friend, the London Street, has its shops full of goods, and, in some cases, busy with workers, and its appearance is wonderfully improved in regard to realism by the substitution of a paved roadway for the unfortunate boarded floor, of which we complained last year, and which gave to the whole so much the appearance of a built-up scene in a theatre. The cobble-stones are not there, it is true, in their uncompromising reality; a merciful consideration has been given to the feet of thin-booted visitors; but it is, at all events, a veritable street, with a gutter down the middle, not, fortunately, put to the practical uses of an open sewer, which it probably served in the time intended to be represented. The Old Street, however, is one of the lighter attractions of the show, which we are glad to see once again, but which has no relation to the real object of the collection, any more than the lanterns and fountains in the garden.

The first cursory inspection of the Exhibition will probably produce on many, as it did upon us, the impression that a great deal is there which has only a very doubtful apparent right to come under the head of inventions. Such classes of exhibits as the carriages, the musical instruments, and some others, appear in the main to be merely examples of good workmanship in the several classes of objects illustrated. A second inspection, however, somewhat corrects this impression. A considerable number of articles which at first glance present nothing but what one is accustomed to see every day, turn out to have claims in the way of improvements, sometimes only apparent on investigation, which give them a right to the general title applied to the whole collection. And apart from this, we think it will be found by those who go there to take their pleasure sadly, and not for mere lounging, that the exhibition, like other good things, grows upon one as it is better known. There are great opportunities for becoming acquainted with the principle and the working of many things which, though in every-day use, few persons who are not specially concerned with them know much about; and in this respect there is perhaps more for the public to learn, and more of general interest, than there was in the "Healtheries." It must be added that there appeared to be a spirit of inquiry abroad among the visitors, and that there was a great deal more of evident interest displayed in many of the exhibits, and desire to become acquainted with their points and their working, at least in this first week, than we observed in the great collection of last year.

A considerable proportion of the exhibits, of course, do not come within our special line of subjects; of those which do we will speak in detail from week to week; in regard to some classes of subjects which are of special interest to our readers, it may indeed be better to wait a little until they are in a more complete state than at present. Meanwhile, we may give a brief sketch of the general contents of the exhibition and the plan on which it is arranged. There is something rather painfully incongruous in the fact that in this exhibition, supposed to be one of inventions for promoting the progress of mankind, the visitor, on first coming in from the principal entrance, finds himself in the midst of a set of objects of the highest and most splendid finish of workmanship, and many of them of the greatest ingenuity of construction, "all designed," as we heard a spectator remark, "for killing people." However, we presume it will be a good while yet before this feature of an inventions exhibition will have suppressed itself; and as long as there are guns, we quite agree with Mr. Ruskin that we had better have guns that will accomplish their intention in a satisfactory manner. The central object facing the entrance here is the 8-inch 12-ton gun from the Royal Gun Factory, Woolwich, a long tube in three thicknesses, suggesting the idea of a gigantic telescope, constructed entirely of steel, polished like a mirror, and not to be touched, if you please, since every touch of the hand leaves its mark on the polished surface. This is a gun with an inner core, on which are shrunk the breech-piece and front hoop, and upon these the trunnion ring and a tier of breech hoops. An example of the core, slotted for the reception of the outer rings, is to be seen here. This large gun, with its complicated arrangements for loading and sighting, is a centre of great attraction; and next to this the attraction of this department seems to be the Maxim machine gun, probably the most compact and deadly little instrument ever invented for wholesale musketry-shooting, which feeds itself automatically as long as the string of cartridges supplied to it lasts, firing at any required rate per second; the operator, having once started the machine, having only to turn it about in the direction he requires by the brass handle on the breech. The steel barrel of the gun is encased in a water-jacket to prevent overheating from the friction of the bullets. In the same department of the Exhibition visitors may study the various forms of the Nordenfeldt, Hotchkiss, Gatling, and other guns, and the Whitehead torpedo, which, like the twelve-ton gun, impresses one painfully with the discrepancy between its beautiful finish and ingenuity, and the poor use for which all this ability of mind and hand has been bestowed.

One can look with the opposite feeling, fortunately, at the central object of the next group down the principal avenue, the splendid compound locomotive, the "Marchioness of Stafford," turned out by Mr. F. W. Webb, from the Crewe workshops of the London and North-Western Railway. This compound engine is really, too, an "invention" of recent date, not a mere specimen of work. Its special feature is a third cylinder in the centre of the engine, between the leading wheels, of larger diameter than the other two outside cylinders, and which works at low pressure with the exhaust steam from the two ordinary high-pressure cylinders. A cynical and heretical engineering critic remarked, "it is not only so ingenious, but it does quite as well as an ordinary engine"; but this was more witty than true. It means saving steam and, therefore, fuel; but it also gets the advantage of the grip of a double set of driving-wheels on the rails without the disadvantage of connecting-rods, which have a great tendency to work loose, and the action of which is only absolutely perfect when the circumference of the two sets of wheels is absolutely identical; an ideal perfection seldom attained. Here the ordinary cylinders, which are set a good way back on the engine, drive the back pair of wheels, and the low-pressure cylinder drives the front pair; and four of these engines are now working the London and North-Western Railway Scotch expresses, and taking them up the heavy incline at Shap without the assistance of an extra engine,

which has never been done before. In some positions of the pistons the engine is apt to "jib" a little on first starting, but the drawback is but slight. The finish of this engine, put together as it is "like a watch," is something to be enthusiastic about, and as an example of perfection of workmanship for an important end, we should be disposed to call it the central point of the Exhibition. Among important things in the railway plant department are several contrivances for automatic coupling, a matter which, in the case of goods trains, means, be it remembered, not merely convenience and saving of time, but of human life; for the category of fatal accidents from being crushed between or run over by wagons, in getting between them to couple or uncouple them, is far larger and more lamentable than the general public are in the least aware of. Of three of these inventions which we noticed in passing, that of Mr. Roe seems the most complete and simple; it may be described as a couple of iron loops on the two opposed ends of the wagons, one of which, on the wagons being pushed together, slides on the top of the other and drops into a hook at the back. Difference of height in the drawbars (within ordinary limits) is of no consequence, as whichever shackle is uppermost slides over the other one, and the hook is the same on both wagons. The Brocklebank coupling is nearly on the same principle, but does not seem to us quite so strong or so sure in its hold as the other. There is no question that railways ought to adopt something of the kind without delay, for the list of killed and wounded in shunting operations is at present painful to hear of, not to speak of the waste of time and stoppage of traffic by the present clumsy system of coupling wagons.

Those who are curious about railway matters will find in another part of the exhibition a very pretty working model of Professor Fleeming Jenkin's telpherage railway, which is, perhaps, destined to be an important agency in the cheap conveyance of goods; the model shows a train of engine and carriages running balanced on central wheels on a wire, the load hanging below and keeping the running carriages balanced. But to return to the central avenue: the western portion is occupied, as we before said, by the class of machines generally designated as prime movers, or, in mill phraseology, "the power," for setting in movement machines for other purposes. In this department may be studied the making of engines and portions of engines, water motors, the Westinghouse brake (the practical operation of which is in constant display, both on the cylinders of the actual size, and on model wagons which are pushed along the rails and brought to a dead stop on releasing the pressure). Professor Fleeming Jenkin figures with another exhibit here, called "nest gearing," a system of gearing "by which power is transmitted by rolling friction between drums so arranged as to bring no pressure on any bearing." To the right of this end of the central avenue is a large space, behind the narrow alley of "Old London," devoted to machinery for electric lighting, on which we can only here "look and pass." The Queen's Gate, further west, is occupied by "naval architecture" and carriages and bicycles. The carriage department conveys the impression, on a cursory glance, of being a good deal occupied by a mere show of typical models of carriages (there may be more than this when we have time to look for it); but the naval architecture department looks like business, and is occupied not only with mere models of craft, which are charming things to look at, but do not teach anybody very much, but with a great number of exhibits showing improvements in rigging details, gearing, and so on. Going north, parallel to the Aquarium, we find the West Gallery half-occupied by "Machine Tools and Machinery," and this section also, including such things as milling-machines, cutting machine-tools, wood and stone working machinery, is a thoroughly business part of the exhibition, and likely to prove most attractive to those (who, we hope, will be many) who will go to the exhibition to learn something. In the West Annexe is to be found hydraulic machinery, prefaced in the catalogue by a short dissertation from Sir William Armstrong. We may here observe that the special prefaces in the catalogue, all by good men, are of no little interest and value, as giving the general outline and bearings of each subject for those to whom it may be a new study. Among the exhibits may be named portions of hydraulic lifts for the Mersey Tunnel Railway, each lift capable of raising eighty to one hundred passengers. The remainder of the West Arcade and the West Gallery adjoining, are occupied by textile fabrics, of which more anon.

In the West Quadrant, connecting the galleries with the Albert Hall, will be found examples of indiarubber, cutlery, and pottery and glass, and in the Eastern Quadrant exhibitions of leather-work, and the lighter subjects of clothing and toys. Coming down the eastern side of the buildings, we find in the outer line of galleries the subjects of fuel and furnaces (which have been illustrated in this part of the building in so many exhibitions that one has got quite used to the appearance of the place), and, occupying a larger space, the at present highly important subjects of "Gas and other illuminants." On the inner line of these East Galleries comes China, which certainly appears to us to be rather at present a *remanet* from the Health Exhibition; at least, the general aspect of the rooms is wonderfully similar. South of China the same line is occupied by paper-printing and bookbinding. The *Graphic*, *Illustrated News*, and some other journals have established printing presses here, besides the printing machinery which is exhibited on its own footing, and which is various and will be of much interest when the majority of the machines can be got at work, as we suppose they will be. In this part of the building the uninitiated visitor may trace the process of a zinc block from the artist's original drawing, through the stages of photograph, photograph on zinc, states of plate after five or six acid baths, and the complete plate mounted on wood for printing. Here also the architectural draughtsman may interest himself in what we understand is the new invention of the "Lithoplate Company," by which a calcareous deposit of the same nature as lithographic stone is produced on a metal plate. The great advantage is the saving of cost of storage space occupied by, and labour expended in moving about, the heavy stones used by lithographers; and, of course, there is the consideration that the supply of the stone may not be unlimited. The matter seems well worth the attention of lithographers and draughtsmen.

The East Annexe, within the line of the last named gallery, is supposed to include "Food, cookery, and stimulants," we presume for theoretical study only. In the South Central Gallery, running east and west parallel with the London Street, are grouped furniture, jewellery, clocks, philosophical instruments, and chemistry. Of the foreign galleries, which occupy most of the space between this and the Central Gallery, one can only say that they appear to be, at present, nearly waste spaces. The Central Gallery takes the musical department of the Exhibition, and is well filled and in good order, but on the whole it seems to have less claim to the general title of the Exhibition than any other portion. Numbers of musical instrument makers, especially pianoforte makers, have collected show specimens of their make here, but we imagine that only in a very few will be found anything beyond good examples of the ordinary products of the trade; not inventions as generally understood Organs of considerable size by various makers, known and unknown, are to be found, and each claims to have some patent speciality, but it is only a halfpenny worth of bread to all the sack. Among the pianofortes there are some few new ideas. One which we noticed is "Blüthner's" "aliquot scaling." We do not see the sense of the title, but the contrivance itself is ingenious and worth attention. It consists in the addition, above each group of three strings which are struck by the hammer, of a fourth string tuned an octave higher and not struck, but merely left free to vibrate, and reinforcing the harmonics of the main strings. This deserves mention as a practical application of the doctrines of Helmholtz, and of the modern investigations which he and Professor Tyndall and others have made in regard to the physics of musical sound.

Finally, Agriculture and Horticulture are represented in the South Court, south of the Central Avenue. The main entrance hall from Exhibition-road has been redecorated by Messrs. Gillow & Son, with good effect. One other feature connected with this Exhibition must not be forgotten in this general walk round. The covered way which the District Railway have had made from their station to the Exhibition is admirably carried out, lined with white glazed bricks, and lighted by electric light. It is one of the most valuable adjuncts for public convenience and comfort which we ever knew a railway company to undertake. It is quite worth the penny charged for its use, and we congratulate the Company on the manner in which they have carried out the work, in the face of the foolish opposition and outcry which was made about it.

ARCHITECTURAL STYLE.

BY EDWARD J. TARVER, LECTURER ON THE HISTORY OF ARCHITECTURE AT THE ARCHITECTURAL ASSOCIATION.

A GOOD deal is being spoken and written just now about the style to be adopted for the proposed Liverpool Cathedral, some advocating one style and some another. Surely this is quite unnecessary,—not to use a stronger phrase,—while the four selected architects are already preparing their designs and have, no doubt, quite made up their own minds on the subject; moreover, such a discussion lays them open to the chance of being twitted with the adoption of some of these gratuitous suggestions, should their designs contain any feature or arrangement bearing a more or less close resemblance to them.

While we hope that the successful architect may have the advantage of the best site that can be found,—a point which is quite open to discussion,—the eminent quartette of competitors may be safely left to work out their respective designs without interruption.

The public, however, who are airing their views on the subject of architectural style may, perhaps, be not unprofitably reminded of the essential meaning of the word "style."

It may present the matter in a new light to state a truism, namely, that there could be no such thing as style unless all ancient architecture had been modern when it was built.

The proof of this statement is the entire history of architecture from its beginning up to the opening of the present century, since which time certain past styles have been revived and initiated. For it will be found that the style of any previous period was the result of the knowledge then possessed applied to the fulfilment of the wants then felt, and that it is this very fitness of the buildings to their purposes, and the execution of them with the best materials and knowledge then at command, that constitute that which we admire under the title of "style."

To say, therefore, that any past style is entirely appropriate to a building to be erected in the present day is to admit one of two things:—1st, That our wants, materials, and knowledge coincide exactly with those that produced the particular style that we prefer, and no other (for no two past styles are alike); or, 2nd, that we do not admire that past style on account of its fitness to the wants, materials, and knowledge that produced it. The only thing left to admire is its abstract beauty; and this is the sort of admiration that we evince by imitating sometimes one style and sometimes another.

Moreover, we have been in the habit of imitating one style for Civil and Domestic, and another style for Ecclesiastical architecture,—a distinction that never existed, indeed, was scarcely possible,—in any past age, although

the ecclesiastical buildings were easily distinguishable from the civil ones.

The Renaissance, even, was a new birth of all art, and adapted itself to churches as well as to houses.

In selecting, therefore, as is so usual, the Gothic style for churches, and the Classic, or other styles, for civil and domestic buildings, we are doing something quite different from that which was done by those very people whose works we admire.

The reason generally given for adopting the Gothic style for churches is that they still have to fulfil the same requirements as did those which were built during the Middle Ages; but it is probable that at least 95 per cent. of our clergy would be shocked if a Mediæval congregation were to rise from their graves, and, under the direction of their priesthood, were to go through their services as of old. Indeed, these ghostly visitors would look about in vain for the numerous side altars which even the remaining percentage of our present clergy might like to use, but may not.

So far, therefore, as there are differences between modern and Mediæval ritual, there should be corresponding differences between modern and Mediæval churches, and, so far as such differences are frankly expressed in the buildings, the result is honest and modern.

Looking, next, at the mere appearance of the revived styles, we may ask,—Is modern Gothic as beautiful as Mediæval architecture?

In the hands of such men as the late George Edmund Street it very often is; but that must be because his sympathies were so eminently Mediæval, as shown by him in his civil and domestic buildings,—a fact which should be carefully borne in mind when taking a broad view of his architecture as a whole.

Is Modern Classic as beautiful as Grecian, Roman, or Palladian architecture?

In the hands of such men as the late Sir Charles Barry it very often is; but our modern Palladian architects have generally turned to Gothic for church work, and have shown therein a want of complete sympathy with their Mediæval models.

Thus, many of our elder architects have gained special reputation as Gothic or Classic designers, and are too loyal to desert the correct purity of whichever style they have taken up; indeed, some will decline to touch any other.

Surely these purists must feel the pinch somewhere, however much they may ignore it. A Classic exterior presents many features that are uncalled for by our climate; while a Gothic interior disregards all those improvements in joinery which have been created and developed during the seventeenth and eighteenth centuries, and amongst which we as certainly feel "at home."

A great architect, who has unfortunately passed away, carried his treatment of Mediæval style to an extent quite beyond ordinary sympathies; he whose vigorous genius and thorough devotion to the thirteenth-century we must admire or confess ourselves unworthy of his teaching. Yet few of us could feel quite at ease in a room whose walls, ceiling, and furniture are crowded with the details of construction and the flood of Mediæval lore that William Burges poured over them. So complete were his sympathies that, in his perspective views, he would represent the inmates in thirteenth-century costume, in order to avoid a jarring note of discord.

Those of us who had the advantage of working with him may indeed be thankful for the insight that he gave us into the very bones and marrow of Mediæval art, a revival being far more instructive when thoroughly grasped than when superficially adopted; but it remains a revival and nothing more.

Probably the architect who first decided upon adopting and combining the vigour of the thirteenth century with the internal comfort and dignity of the eighteenth, is one whose retiring disposition has kept his name out of the public papers, and whom, therefore, it would be indelicate to mention here; but we who started practice early in the 'sixties, when, perhaps, by his example, the tide of revivals had begun to ebb, are thus set free from party ties of Classic or Gothic purism.

Is any sudden leap into a Victorian style recommended or even suggested? Certainly not. Such a thing as the sudden formation of a true style has never been known, and is no more possible now than at any former time. Every style represents the survival of the fittest elements of its predecessors, with the addition of such improvements as were wanted. Our chief difficulty is the *embarras de richesses* that we have to select from, and all that is urged here is that we should select and harmoniously combine the individual features that are really useful to us, and reject the rest, instead of adopting the collective features that constitute any past style.

In an important recent discussion, the chairman of the meeting said that "Gothic would die hard,"—a needless observation, for there is no reason why the useful elements of Gothic should die at all. Probably mischief has been done by dubbing this modern development as the style of a certain reign, and thereby classing it amongst the revivals. In such cases there is danger of wild extravagance amongst thoughtless followers of fashion; but it is fair to say that the worst results emanate, not from architects' offices, but from the designing "departments" of builders who persuade people to do without architects, and of upholsterers who are not content to upholster, but who, having caught the infection of ingle nooks, plan houses with an infinity of nooks and corners that are the despair of the dusting housemaid, and are only fit for a game of hide-and-seek; while they obfuscate windows with unnecessary stained glass and make "features" of every fitting.

The public will soon learn to discern these from the unobtrusive and refined buildings that many of our architects are producing. These contain evidences of having been built in this century, and in no previous one. They combine the refinements of Renaissance with the climatic advantages of Gothic, and thus constitute a modern style of civil and domestic architecture, now of about twenty years' growth, and fairly suited to our wants.

Having brought the subject to this point, the next question is whether any advantage is to be obtained by applying this modern style to our churches; thus repeating that which was done in all past ages, except that in them both branches were developed simultaneously.

There is no difficulty in proving that this was so as regards the Gothic styles, by a very short review of them. Beginning with the round-arched Gothic or Norman style, would any one have the slightest hesitation in calling the "Jews' House" at Lincoln an obvious example of this style? The form of the arches, the section of the mouldings, and all the details, are the very same that we find in hundreds of churches of the same period; yet no one would mistake this house for a church; the general arrangement of its façade being quite different from that required in a church. In the next style, the Transition from Norman to Early English, we may see, in the hall of Oakham Castle, couplet windows that we should assign to the period if found in a church, and yet there is a distinction between this hall and the somewhat later but similarly planned church at Skelton. In the fourteenth century Penshurst Hall presents window tracery clearly belonging to that period, yet a glance at the position and surroundings of these windows dispels the notion of their belonging to a church. Somewhat later examples present the externally square-headed windows that some people consider peculiar to domestic architecture, yet there is no want of examples of them in churches, Tideswell having even chancel windows of this form. In the fifteenth century, which, being the most recent of the Middle Ages, presents the largest number of surviving examples, the universal character of the details in all kinds of buildings extends not only to the stone and brickwork, but to the fittings and furniture, and yet bears evidence of fitness to the several purposes required.

No doubt, these numerous examples of fifteenth-century woodwork inspired the first Gothic revivalists with the fashion and passion for Tudor dwellings that had all the weight of precedent wherewith to awe the public, who were therefore willing to pay the price of carved joinery, in order to be completely correct in their interior fittings, and it is probably to the cost of carrying Gothic work thus completely through a dwelling-house that we owe the escape to the more easily-worked mouldings of the eighteenth century for panelling, &c.

Thus a more modern and homely feeling has come to pervade the interiors of our houses; our windows have become square-headed or slightly-curved, instead of pointed; and, on going out of doors to see the effect, we have added a few more details of the modern manner, and so, by degrees, the dissolving view is changing to a domestic style of our own from the less suitable Gothic, and civil architecture is following suit.

Now, is there anything in the Gothic style equally or in any degree unsuited to our churches? Our leading church architects would appear to think not; for, although they have, like the rest of us, adopted the modern style for their civil and domestic work, they use Gothic in their ecclesiastical architecture.

Why is this? Probably the answer to the question is to be obtained from our clients. It is they who shudder when any wandering from precedent is suggested, and it is with them, and especially the clergy, that it rests to tell us fearlessly what they want, just as they would in asking us to carry out their ideas in the arrangement of a house plan.

It is said that the plan of the Greek Temple, that marvellous thing of beauty that appears in a complete form in the first known example at Corinth, was dictated by the priests, who then handed their instructions over to their architects to supply the requisite skill in construction and the eye for beauty of form.

Our clergy are specially deficient in the matter of painting and sculpture, screening themselves behind the advice of Mr. So-and-So, the eminent church architect (especially when they want to go a little "higher" than those who differ from them), and here Mediæval archæology is allowed to exercise full sway. The Mediæval artists did not trouble their heads about archæology,—we should know nothing about the costume of their day if they had done so. The subjects and the truths embodied in them of course remain, and the clergy should be responsible for the selection of them, as part of their teaching, leaving us to express them in our modern language by brush or chisel.

In matters of plan the clergy can surely know better than any one else what is suitable to their requirements.

There are some to whom the sermon is the chief event in the service. It is not for architects to say whether this is desirable or not; but, if it be, why do the clergy of this school so often make themselves and their congregation martyrs to a three-aisled Gothic church with neck-twisting side galleries? If they will instruct the architect to give them a good auditorium, as distinct from a lecture-theatre as are the respective purposes of each building, he will not fail to produce a suitable result. He will, probably, not altogether expel pillars, in the shadow of which a sinner can feel that he is in God's house, and pour out his soul unnoticed by the congregation.

Or the clergyman may like a large free open space, in the centre of which not the pulpit but the choir may be placed in the midst of the congregation, and all lift their voices in unison.

Others regard the mere presence in church for prayer, praise, and thanksgiving as sufficient; to these a large proportion of pillars and piers will be no objection.

There may be other views of church planning not yet dreamed of by laymen, but which the clergy might recommend as the result of experience; that is, by carefully noting the advantage and defects of every church in which they happen to conduct service. They might draw up an outline list of rules and fill them in at their clerical meetings, and avoid saying

a word to any architect on the subject while doing so.*

Many of these points are already laid down in the printed suggestions of the church building societies; but it seems to be now time to revise them, and to omit the advice to copy Mediæval styles. Although this advice was the best that could have been given as a reaction from the Greek revival, it must have fostered the hyper-archæological zeal for restoration which most people now admit to have been overdone, and which has led to such astonishing evidence as the following, given by a witnesss in regard to Westminster Hall. He defended the windows in the proposed restoration (or whatever word beginning with "re" should be employed), he admitted that they would be too small to light the rooms, and he suggested that they should be supplemented by unseen skylights! When we find this sort of advice gravely offered to a Committee of the House of Commons, it is high time to claim our liberty to build what we want in our own manner.

The model of the proposed rebuilding of the western adjunct to Westminster Hall opens up a new era in the art of restoration, and appears to exactly hit off what is required in that delightful study.

That the archæological knowledge possessed by many architects and amateurs should be wasted, and bear no fruit, would be a thousand pities, and here we have the most legitimate means of displaying that knowledge and of affording profitable instruction to the public by showing them what any imperfect ancient building looked like at any particular past period.

No vast sums of money need be soaked in the greedy sponge of "restoration"; but a far more modest expenditure in canvas and paint, in the hands of such cunning artists as those who executed Mr. G. H. Birch's "Old London Street" and the model in question, will give all the necessary effect.

Let such models be prepared, under architects' advice, and be harmlessly applied to our unrestored churches throughout the land, and be left up for a few months and duly photographed, and a new branch of trade will have been started; while the buildings themselves may await in safety such solid repairs or additions as the actual wants of each case may require.

We know the delight of contemplating genuine old work, and the beautiful and honest manner in which the problems have been solved; we watch with deep interest the gradual changes from one style to the next; we are even more excited in noticing different styles in the same building, and in assigning to each its proper date, and we only want sufficient faith in our own day to leave to posterity an equally unmistakable stamp on our architecture.

Individual personal character there is in the churches of our best architects, and this would come out all the more strongly in the solution of fresh problems, while the setting of these problems would not drive clients to these few, but to any skilled architect who can work to instructions.

The clergy would, we trust, be too conservative to give up any well-established arrangement, and the architects would be too conservative to ignore the glorious lessons of the past, and they would do *as* their forerunners did, and not *what* they did.

Serious Fires in London. — To the destruction of the "Japanese Village" at Knightsbridge on Saturday last, we refer in another column. Another very serious fire occurred on Wednesday morning, in Oxford-street, when the extensive workshops of Messrs. Jackson & Graham were destroyed by fire.

* For example, has a clergyman never been deafened, just before service, by the booming of the organ placed over the vestry? Has he never been unheard by those sitting in the side aisle under high roofs and separated from him by massive arcades? Has he never been blinded by the glare of a low west window when glancing up from his sermon? Has he never been rendered nervous by conflicting crowds in narrow passages on their way to and from the altar?

THE ROYAL ACADEMY EXHIBITION.

AS usual, on private view day, people were to be heard grumbling that this was "the worst Academy they had ever seen," a pessimist view which is repeated annually during the first week of the exhibition. The exhibition is, in fact, a good, but not a brilliant or a striking one. The absence of any work of the first importance by the President makes a considerable gap; and the presence on the line of an unusual number of utterly ridiculous paintings by certain old Academicians, who ought to be plainly told, even for their own sakes, that they are making themselves and the Academy a laughing-stock, no doubt tend to intensify the ill-humour of the disaffected visitor. But there is plenty of good work, for all that.

Mr. Tadema has distanced all former achievements in painting the texture and lights on marble in his "Reading from Homer" (276), in which the figures also are of more interest and beauty than is sometimes the case in his works. The slight glimmer of transmitted light on the under-side of the marble seat, where its edge turns over, is a marvel of minute realism, a positive pleasure to look at, though one always feels a regret that the possessor of such marvellous technical power seems unable to infuse more spiritual interest into his paintings. However, there are "diversities of gifts." By the way, is the curve of the seat quite true, on the right, where it is intercepted by the reader and his chair. It does not seem to us that the two sections of the curve, if produced, would meet quite truly, a point for criticism in a painting in which technique plays so important a part.

Mr. Millais's principal work, "The Ruling Passion" (212), is an admirable painting, a little deficient in interest. The dying ornithologist (or taxidermist is he? it is not quite apparent which), still admiring his birds, is pathetic with a sort of work-a-day pathos; the face of the old man looks as if it had somehow come out of the pages of Dickens; but the idea is somewhat prosaic for an important painting. The family grouped round his sofa include various figures,—a woman, young children, and an older girl,—painted in the artist's best manner; the whole picture is a little low in colour, the plumage of the dead birds forming the only decisive colour; and we may suspect that the final turn given to the subject, making the dying man a bird-fancier, was in order to get in some bright colour in this way. It seems pretty obvious that the immediate point and title of Mr. Millais's pictures are not unfrequently determined in this way, *a parte post*, and that the actual title of the picture is an afterthought; and that is hardly the way to produce pictures that will interest a spectator deeply.

How much stronger, for example, is the intellectual interest of such a picture as Mr. Orchardson's "Salon of Madame Récamier" (172), apart from questions of technique. Here there is a real concentrated effort to do a thing which is worth employing the best power of painting on, to make a remarkable phase of human society live again. There is a *raison d'être* for such a picture. There are many pictures, by very able painters, in the Academy which seem to have no *raison d'être*. Mr. Orchardson's is a large work in his peculiar manner, very effectively composed. The young hostess, in white, is seated on a sofa, conspicuous as the centre of a group on the right, whose attention is directed to her; these include Bernadotte, Metternich, and Fouché. To the left is another group, just sufficiently connected with the rest in regard to grouping, but severed in action and attention; a group conversing in a desultory manner together before taking their turn round the queen of the mansion. Among these are Lucien Buonaparte, Talleyrand, Brillat-Savarin, &c., and the calm face of Canova is seen in the background. Madame Récamier's manner and expression seem a little deficient in *esprit*. A quotation given in the catalogue speaks of "the repose of her manner," which is, perhaps, what the painter has aimed at, but we do not think her quite a success. The character and individuality of the men are admirably brought out.

Sir F. Leighton's principal contribution is "Music, a Frieze" (344), apparently a companion to the composition entitled "The Dance," which he has previously exhibited. In the centre is a golden-robed Apollo under a canopy; various groups of singers and listeners recede from this on either hand; the colour of the whole is very rich and fine, more so than in "The Dance," but the plain thin column shafts, painted dark blue, convey to the architectural eye a rather incongruous suggestion of cast iron. Among the President's other contributions are a very pleasing half-length of a modern young lady (194), with, however, a good deal of idealising in the texture of the face, which, like others by the same hand, seems hardly made of mere earthly flesh, and a charming portrait of "The Lady Sibyl Primrose" (281), the little daughter of Lord Rosebery, whose sister is painted by Mr. Millais as "The Lady Peggy Primrose" (275): the two almost infantine figures make a charming pair, illustrative of the styles of two great painters in the treatment of children's portraits,—a human parallel and an artistic contrast at the same time.

Among the three or four nude studies of importance the finest, to our thinking, is, perhaps, the one which will be least looked at, partly owing to its less favourable position; this is Mr. John Collier's "Circe" (810), which shows the goddess seated on the grass with her back to the spectator and her arm round a tiger lying by her. In one sense the picture would be far more effective if the painter had put some more ideal surroundings than his ordinary scene of grass lawn and plantation; he should have conveyed the idea of a kind of enchanted land; as it is, he is too prosaic; it is as if one took a turn round the environs of an English country-house and came on a member of the family sitting naked on the damp grass with a tiger by her side. The situation is improbable and chilly; and there is no look of "Circe" in the side-face turned towards us. In fact, of course the picture is painted for the sake of showing the artist's power of painting a woman and a tiger, but why could not he call it "Woman and Tiger," instead of pretending to represent Circe, that wild conception of the old Greek mind, the realisation of which would demand the highest imaginative power a painter could put into his work? Apart from this, the figure is a remarkable success, both in drawing, colour, and that suggestion of the framework underlying the outer forms of the body, without spoiling their soft lines, which is the triumph of nude painting. It was for Mr. Collier's benefit, it will be remembered, that Mr. Tadema's "sculptor's model" was painted; and the older artist may be proud of his pupil. Mr. Poynter's large version of "Diadumené" (a name suggested by the fact that she is in the same attitude as the "Diadumenos" of Polycleitos, tying a fillet round her forehead), hangs in the centre of Gallery IV. (322), and is a monumental and almost sculpturesque figure, in the midst of very elaborate architectural surroundings. The figure itself is a model of realistic (not idealised) symmetry; the texture of the flesh a trifle hard, perhaps to emphasise the monumental idea and assimilate the figure a little with its architectural surroundings. We could have wished there were a little more interest and beauty in the face: it is a fine, a learned, but hardly a very attractive work; in this sense the smaller edition last year was perhaps superior to it. Mr. Calderon's "Andromeda" (295) seems evidently intended as a kind of companion to his "Venus" of the Grosvenor Gallery last year; it is a most bold attempt in contrasts of colour; on the right a dark blue sea, the very deepest blue that you possibly venture to paint the sea; then a great splash of the whitest spray, then the figure of Andromeda draped below the waist, and behind her white body a thick mass of dark hair blown wildly about by the same wind that blows the mass of spray up: the combination is truly a bold and striking one, and the head and figure very finely painted. Yet here, again, we miss what we really want

from a painter of an ideal subject. Mr. Calderon is far more ideal than Mr. Collier; but still there is nothing in the face of his Andromeda of the agony of the struggle between the fear of immediate and terrible death and consciousness of a great self-sacrifice; she might have been cut off by the tide while bathing, and looking out for a boat, except for the chains; so that the picture fails of what should have been its highest *motif*. This is a trifle, however, to the absurd incongruity of Mr. A. Moore's figure, called "White Hydrangea" (356). Except when the nude figure is palpably and obviously a study, it expects to be idealised, and many of Mr. Moore's pictures are purely ideal. But this figure is so exactly the type of a modern society young lady, and so exceedingly realistic in her tripping walk, that there is a kind of ludicrous impropriety about it; it is as if we were sitting in a rather æsthetic drawing-room, and the young lady of the house suddenly tripped in, with a little conventional simper on her face, and an unfortunate but entirely innocent forgetfulness of the fact that she had nothing on but her cap. But the climax of prosaic treatment of the nude is reached by Mr. Calderon in his smaller work, "The Woodland Spring" (940), which seems to represent a plump country girl who is catching cold by sitting out naked on the bank of a brook; and to this the artist appends Milton's couplet,—

> "Such sights as youthful poets dream,
> In summer eve by haunted stream"!!

Do they really? If some painters were a little bit more of poets, they would know better than to perpetrate such absurdities.

One of the most powerful and successful paintings in the whole collection has been relegated to the last room, "The Norman Archipelago" (1,106), by Mr. Brett. The general character of this work will be understood when we say that it is one of the painter's large blue pictures; an expanse of sunlit sea with crags and islands in strong light; but though the type has been repeated rather often, the work seems to grow in power and completeness with each repetition. This picture is superior to "Britannia's Realm," of which it rather reminds one, in that it shows more delicate atmospheric effect in the distances; as a representation of what the painter means to represent, it is a splendid success, and in this kind of power Mr. Brett and Mr. Tadema alone can be paired together. Each is somewhat restricted in his range, each is completely successful within it, and both leave us in doubt whether it is better to have wider range with less perfect execution, or whether such perfect achievement is not enough to atone for a restriction of power.

One landscape alone by Mr. Alfred Hunt appears, and that badly hung; three, we believe, were sent, and when we look at some of the monstrous things by Academicians which occupy central places on the walls, and consider what Mr. Hunt's quality is, the fact of the refusal of two works by such an artist seems really nothing short of disgraceful to those concerned with the admission of pictures. The one painting by which this finest of our contemporary landscape artists is allowed to be represented is entitled "Bright October" (756), and is a scene in a lovely secluded glen, with pools of water; a scene which he has painted before, if we remember rightly, from another point of view. The picture has Mr. Hunt's usual refined and poetic feeling, and total absence of mere paintiness; but in the corner position in which it is hung, the light falls on it in such a way as to rob it of much of its lustre, and interfere with its delicate effects. Perhaps the only other work of the landscape order which we should class with that of Mr. Brett and Mr. Hunt is the powerful seapiece by Mr. H. Moore, "The Newhaven Packet" (533), so called for distinction, as the packet is merely a distant object, the subject being the "swinging waters" (the phrase is Matthew Arnold's) of the sea, shown in a style to which Mr. Moore has accustomed us, but which he has never illustrated better than in this work. The difference between Mr. Brett and Mr. Moore on the one hand, and Mr. Hunt on the other, is that they each have one especial effect which they have worked up to perfection; Mr. Hunt's speciality is that he has no speciality in dealing with nature; his pictures are on no fixed model, and in this point he stands alone among many English landscape-painters since Turner.

We have adverted to the leading works of the year, and will mention briefly some others in another number.

ARCHITECTURE AT THE PARIS *SALON*.

ARCHITECTURE is represented at the *Salon* of 1885 by 169 artists, whose exhibits comprise 187 numbers in the catalogue. There were 162 exhibitors in this class last year, and, in 1872, just after the war, there were only 48. However insignificant in comparison with the paintings, this progress shows that here, as in other branches of art, the flood swells and rises continually.

This ascending movement, which generalises what was formerly only the small domain of a few, is most perceptible among the painters. Architecture is a difficult art, exacting varied kinds of knowledge and a special apprenticeship, which discourages young people from taking to it. It is almost a science; never an art of mere enjoyment. One cannot make architecture a pastime, though Paris swarms with amateur artists, for whom the clay or the pencil forms an innocent distraction, and whose supreme ambition is to figure in the *Salon* alongside of eminent masters.

Yet architecture demands, in reality, more imagination than other arts. It has not, like painting and sculpture, the resource of models and of the expression of special sentiments. Its guides are harmony, order, and taste; and, if endeavouring to express through certain forms the idea of the beautiful, it must combine and develop these forms according to precise rules and proportions. Thus it offers to the general public apparently dry and dull details, which leave them indifferent or even drive them to the galleries of sculpture or of *genre* for the dramatic interpretation of sentiments or facts interesting to the sight and perception. And this is why every year the rooms devoted to architecture, and which are always placed at the furthest extremity of the *Salon*, are isolated and deserted, while in an adjoining gallery loungers crowd around pictures whose superficial and sensational merit fills them with idle admiration.

As usual, monumental architecture holds an important place in the *Salon*, while private architecture hardly shows its head. This is easily understood, for the annual *Salon* tempts only the young architects. Those who have already made a name have no more leisure for entering upon useless combats, since they have attained the summit of their ambition. In this respect there is a great difference among painters, sculptors, and engravers, who, whatever their position of fame or notoriety, do not hesitate to encourage their young *confrères* by their emulation and example. In architecture, on the contrary, the artists who are already known, absorbed by their work and by the exigences of their profession, desert the field; and, with some few exceptions, you will find nothing here but the works of pupils in the competitions in the "École des Beaux Arts" or the "Envois de Rome," which naturally have for their object monumental architecture, especially of the Classic variety.

These various causes, and the conditions under which the projects have been executed, explain the small number of the designs having relation to civil architecture in its usual application, we mean in the way of ordinary dwelling-houses, &c. It is with difficulty that we find here and there some restorations of old manor-houses rebuilt in a naïve fashion, or some modern constructions without originality or style, almost all built for the same patron and revealing on the part of their authors a forced subordination to the vulgar taste of the proprietor.

One cannot too much encourage architects who exhibit designs which are conceived apart from the conventions of the schools and out of the usual professional groove. This praise is merited by M. Auburtin, pupil of the lamented Constant Dufeux, who sends plans and elevations of a private hotel which is being built from his design as No. 36, Rue d'Assas; the brick façades are in the style of Louis XIII., elegant without pretension, well studied, and of good decorative effect. We do not like so much the villa which the same artist has constructed by the sea-side at Benzeval, the rustic over-ornamentation of which repeats itself pretty uniformly along all the Normandy coast.

It required rather more courage for M. Fivaz to exhibit, among such Classic surroundings, a project for a restaurant. The one of which we speak is to be erected in proximity to the Bois de Boulogne, in the most elegant quarter of Paris, and the architecture is gay and the aspect bright and cheerful, as it should be for that locality; which is why we give it a place in the very restricted catalogue of *édifices privés*. Here, however, is the essence of "private architecture," given us by M. Lemenil, in the plans and elevations of houses built for the "Compagnie des Immeubles" of the Monceau estate, Rue de Logelbach. If the interior arrangements are comfortable and well ordered for domestic use, one may, at least, criticise the architectural uniformity of the façades, all the mansions resembling each other in nearly every detail, an unpleasing sequel to what used to be called the *Haussmanisation* of the new streets under the Second Empire, so many rows of enormous barracks without character of any kind. This reproach is the more emphasised in consideration of the neighbourhood, which is one largely inhabited by artists, and distinguished for its happy and picturesque mixture of styles of all countries and epochs. Is not this, at all events, better than that cold, rigid, perspective of houses, all the same height, which gives such monotony to the important new streets of Paris?

Besides these essentially Parisian constructions, we may mention a design for a school, by M. Hugues, for the town of Azeu; the "Caserne de Sapeurs-pompiers" by M. Calinaud, and the design for a *lycée* by M. Baudot, who treats the building a little too much like a hospital.

Among the civil buildings exhibited, we may mention the new Palais de Justice constructed at Meaux by M. Camus, of which the interior dispositions are well conceived, but which externally wants amplitude and elevation. The Ionic order of the peristyle supports a poor entablature, behind which rises a meagre dome. The *Mairie*, which M. Bernard proposes to raise in the Tenth Arrondissement of Paris, on the site of the St. Lazare prison, deserves mention also. We do not like so much the design for a town-hall which M. Paul Normand has prepared for Chesterfield (England); and M. Rives's Theatre for Marseilles satisfies us still less, with its overgrown ornament and its façade smothered in sculpture.

As to the hot-baths establishment with which M. Depasse wishes to gratify the Pyrenees; as to the establishment for Baths on the Seine projected by M. Le Roy; as for (lastly) the Indo-Chinese architecture inspired by the Eden Theatre, which MM. Hugo and Roux wish to inflict on the "Association Internationale du Congo," we can only confess our inability to comprehend these "Fantaisies abracadabrantes," without style, intention, or taste.

In the department of monumental architecture the exhibition is infinitely more interesting. In the centre of the first room there rises the large model of the monument to Gambetta, of which the *Builder* has already given a description. The rest of that room is in some sort consecrated to this leading work, of which the plans, sections, elevations, and mouldings have been drawn by M. Boileau, the architect. The general appearance of it is of a grand character; though a little heavy, perhaps, the monument is very decorative in character, but the principal figure, of which this is the apotheosis, is in no way monumental, neither in aspect nor in costume.

M. Nenot, who exhibits his design for the monument to Victor Emanuel, is the victim, or, we might say, the hero of a misfortune which has rendered him the greatest service in bringing him while still young into full recognition. It is well known that after having been chosen as the most worthy in the competition for the Victor Emanuel monument, he was subsequently excluded because he was a Frenchman. But his design was purchased nevertheless, and M. Nenot exhibits it with the authorisation of the Italian Government to which it belongs. The design, according to the intention of the author, should have been erected in front of the Baths of Diocletian at Rome. It comprises a semicircular portico enclosing a triumphal arch which recalls that of Constantine, and which is surmounted by two quadrigas in bronze. The porticos terminate on each side in pavilions, also surmounted with quadrigas. At the centre of the semicircle, a column carrying the statue of the king rises over a basement adorned with statues representing the principal towns of Italy. Four fountains arranged in front of the porticos complete the decorative elements of the design.

In the same room, two projects by M. Formigé attract special attention. The crematorium, which the Municipal Council wish to confer on Paris, is a design well studied, of a severe character, perfectly appropriate to the destination of the edifice. A surbase, decorated with arcades, supports a monument, the door of which opens between two immense bronze lamps. The upper portion is decorated with garlands and funeral wreaths, and crowned by a dome, on a surbase of masonry, with a tall pyramidal chimney on either side. The same artist exhibits a sketch for a monument of the Revolution of 1789, for erection in the Champ de Mars. It shows a large surbase, to which access is given by stairs on each face. At the four angles are equestrian groups, which form the terminations of a balustrade, with antique tripods at intervals. On the platform thus formed is a rounded drum or socle, adorned with statues, and the walls of which are clothed with bas-reliefs. On this is a circular loggia, open on the four faces, within which is the altar of "La Patrie." Each opening forms an arcade framed between obelisks, decorated with allegorical sculpture in alto-relief. The whole is crowned by a dome, surmounted by a group symbolising Liberty, Equality, and Fraternity.

The competition designs of the École des Beaux Arts, and the work of the students at Rome, as already observed, occupy a considerable place in the *Salon*. Among the first we find the designs for a museum of ceramic art, a subject which has not been really well treated except by M. Bezemenet. It is the only one which gives the true character of such a work, in a manner simple, intelligible, and appropriate to the subject. With the exception of the work of M. Pied, which displays the conscientious work of a thorough student, the rest are pretentious and affected in style.

The competition opened by the city of Lille for a Palais des Beaux Arts is also represented here by a certain number of designs, among which we may mention especially that of MM. Chancel and Bonnier, which received the first premium. The palace which they present to us has a grand appearance, and the principal façade is of very fine character, with its two angle pavilions containing the great staircases, its bas-reliefs, its centre ornamented with caryatides and surmounted by a pediment with sculpture in high relief.

Among the works exhibited in,—or, we might rather say, banished to,—the interior gallery of the Palais de l'Industrie, we may remark a series of designs submitted in the recent competition for the Exchange at Amsterdam. That of MM. Larabrié and Stevens seem to us the only exception to a collection of mediocrities.

In regard to foreign drawings, a Belgian artist, M. Jean Baës, exhibits a view of the *Salle de pas Perdus* of the Palais de Justice at Brussels. This is a heavy architecture, crushed by a colossal dome and overloaded with ornamentation, but the perspective view is cleverly executed. The same artist sends a set of designs which cannot be passed over in silence, though they enter rather into the category of water-colour drawings, and appear a little out of place among the architectural works. M. Baës brings before us the principal bell towers and turrets of Belgium. His style is free and pleasing, as well as interesting, from its individuality. We may notice especially one drawing in which a tower rises above a sea of red and grey roofs, treated with great delicacy of colour. While speaking of this class of work, we may mention the steeple of Roskoff, by M. Mayeux, who has depicted with a loving hand the lace-like details of the tower forming a silhouette against a twilight sky.

Classic art and archæological restoration are represented at the *Salon* by some very remarkable works. Thus M. Lefort, Architect-in-Chief to the Department of the Lower Seine, gives us a restoration of the Palais de Justice at Rouen, of which the details are treated with much learning and absolute respect for the primitive style of that admirable monument. We notice also the restoration of the arch of Titus by M. Gérault, pensionnaire at the Villa Médicis, the drawings by M. Blavette having for their subject the restoration of the Pantheon at Rome in the reign of Augustus, and the work sent from Rome by M. Guatessous. This young artist, who has already obtained the second "Grand Prix de Rome," sends two projects. The first, which is the property of the State, reproduces the central portal of the Church of St. Maclou at Rouen, the details of which are very ably drawn; the second, executed for the competition for the diploma of the École des Beaux Arts, represents a "Salle des Séances" of an Institute. This is also a very interesting design, with an imposing façade, a little spoiled, to our thinking, by being overweighted with a somewhat too ponderous dome.

We ought to make special mention of the *envoi* * of M. Laloux, a pupil of M. André, who carried off the "Prix de Rome" in 1878. He exhibits ten drawings of the restoration of the Altis at Olympia. This is a really remarkable piece of work, showing both learning and imagination, and shaded with the hand of a master. The plan, executed from a comparison of the ruins with the description of Pausanias, is made out with convincing clearness and certainty; the elevations, especially that of the temple, show a designer of the first order. The basreliefs, frescos, and ornaments of the frieze are very boldly drawn. We were particularly struck by a panoramic perspective view of the sacred grove, with the temple of Jupiter standing out boldly against Mount Cronios, the barren slopes of which are very well delineated. This is more than the work of an architect; it is that of a painter and a decorative artist, with a knowledge of plan and perspective which enables him to produce almost an optical illusion in his distances. M. Laloux takes us successively into the Philippeon raised by Philip of Macedon after the battle of Chæronea, into the Prytaneum, and into the Pelopeion, and lastly into the temple itself, surrounded by steles, tripods, and a whole pleiad of votive statues. Behind the altar of Jupiter extends the terrace of sacred treasures, where various glories of antique sculpture were dominated by the colossal statue by Pheidias. Above, and by way of comparison, a large water-colour shows us the actual state of the ruins of Olympia, their bare desolation contrasting forcibly with the Pagan splendours shown in the restoration.

Considerations of space compel us to pass over many works worthy of mention. We may glance in passing at the interesting and correct but rather cold drawings of M. Boitte, the charming drawings in which M. Albert Ballu shows us graceful details of Moorish architecture, the watercolour by M. Grandin reproducing the Cour du Mûrier at the École des Beaux Arts, the sketches abroad of MM. Ruy, Le Chatelier, and Renaud, the Protestant church in Romano-Byzantine style by M. Sortais, to which we prefer nevertheless that of M. Flandrin, the drawings of M. Devrez and M. Moyneau, &c.

From what has been said, it may be concluded that the architecture of the *Salon* of 1885 contains much that is very interesting, although no new class of work appears to break the circle of classic tradition. The projects exhibited, with some few exceptions, have no object but the restoration of the past. Without wishing to conclude that there is no originality in France and that the art of architecture is in a stationary condition, we may say that the present state of things is a necessary and inevitable consequence of the official and "classic" education given at the Écoles des Beaux Arts. Ought one to regret this? We think not, for the traditions of the École, against which it is the fashion in France at present to combat, have, at least for the architect, the advantage of keeping intact the respect for the great styles of antiquity and of preserving a standard of pure taste.

* The works sent home to Paris by the French students at Rome are generally spoken of as "les envois de Rome," hence as "envois" simply. It is difficult to find an English equivalent in a single word.

NOTES.

THE Committee on Westminster Hall have issued their report, of course in favour of Mr. Pearson's archæological scheme in its entirety, a result which every one who noticed the composition and feeling of the Committee must have known was a foregone conclusion. The only point in Mr. Pearson's propositions which they decide against is the proposal to raise and give more architectural importance to the towers at the north end of Westminster Hall; in other words, the only portion of his proposition which is really architectural work, the rest being only archæological trifling: so that so far the Committee are completely consistent in their absurdities. It may be observed that no mention is made, in the Report, of the fact that the staircases to the ill-lighted committee-rooms proposed between the buttresses will project 15 ft. into the Hall. Westminster Hall is now a grand unbroken interior: how will its suitability for a great coronation fête be affected by the obtrusion into its area, on one side only, of these excrescences? The Committee have endeavoured to discredit the opposition to their scheme by representing it as coming entirely from "gentlemen objecting to any addition to or restoration of old buildings." Now, no opposition to the scheme has been stronger than our own, and we are absolutely opposed to the general views and principles of the clique referred to. The misleading and inadequate manner in which the affair has been misrepresented to the public in the *Times* can hardly be overlooked. Almost all the evidence against Mr. Shaw-Lefevre's views has been omitted in that journal, and in its account of the report of the committee, the alternative report of Mr. Peddie (the only architect on the Committee) is merely contemptuously referred to as of no consequence. We shall return to the subject when the evidence in full is printed; meantime we reiterate our opinion that the whole affair is a piece of silly archæological twaddle, and, if sanctioned by Parliament, the Committee will find out eventually that they have made themselves a laughing-stock; but unfortunately that will not undo the mischief that will have been done.

THE recent report of Her Majesty's Factory Inspectors is in many ways satisfactory and reassuring, as showing that, in the main, owners and masters are ready and willing to co-operate in the prevention of accidents, and to do all that can reasonably be expected to insure protection from machinery in motion. Unfortunately, no efforts on the part of employers can guarantee the absence of carelessness on the part of the *employés*; and to this must be attributed a death and accident roll for the year, which is far too long. The total list of casualties numbers nearly 9,000, of which over 400 were fatal, the remainder resulting in various forms and degrees of mutilation. The most numerous, though not the most serious, accidents take place in textile mills, and are in a very large degree owing to

the reprehensible practice of allowing women and young persons to clean the machinery while in motion, a practice which is prohibited to children, and should certainly be forbidden altogether. Grindstones, whether in cutlery shops or flour-mills, are mentioned as having a good many victims in the course of the year, and circular-saws figure also as accident-causers far too conspicuously. One reason of this is, that the fret-saw cutters have enormously increased of late, and that they are usually occupiers of saw-mills, renting a room, and running shafting, pulleys, belts, and countershafts within a foot of the ground, quite unfenced. Such places are veritable death-traps for the young boys working there, and for the children who are sent by their fathers for wood. A great deal of attention is devoted by the Inspectors to the different subjects of ventilation and overcrowding, and much improvement has certainly been made in this direction. London is, perhaps, the chief offender under this head, containing, as it does, a vast number of underground and ill-ventilated workshops, into which no daylight or free air enters, and where a great quantity of gas is necessarily burned. The difficulty in this case is, not to introduce a rush of cold air, against which all working hands protest, but to give a gradual supply of pure air, which will do its work without being felt; and there are several kinds of ventilators which, more or less, fulfil this end at a small expense. It is marvellous to what foul atmospheres the lungs will accommodate themselves for a time, and what a thankless task it is to make operatives healthy in spite of themselves.

WITH reference to the late disastrous fire at the Japanese village, we would call attention to the great anomaly which exists at present in the regulation of buildings like the late one. The building occupied by the Japanese Village Company was known as Humphreys' Hall, and in the interior consisted of a number of streets and shops, laid out upon the Japanese plan, the streets being exceedingly narrow. The shops were composed of light wood and matting, and a variety of trades were carried on therein. The shops and streets were lighted by gas at night, and, considering the time the place has been open, there is very little doubt that the whole of the interior was of a most inflammable character. On the recent hearing of proceedings by the Metropolitan Board of Works against the promoter and manager, for not obtaining a certificate that the building was in accordance with the Board's regulations, made in pursuance of 41 and 42 Vic., c. 32, s. 12, it was said to comply with the regulations as to fire, exits, &c., made by the licensing authorities, and that therefore there was no necessity for obtaining the Board's certificate. The building, which was surrounded by dwellings, was completely gutted in an hour, and within a very short space of time from the fire breaking out escape would have been impossible had the performance been going on. The approach to it was by one principal main entrance and one other entrance in the annexe, which very few people would have found in a panic; and besides this, the principal entrance was completely blocked up by turnstiles. Section 12 of the above Act expressly enacts that it shall not be lawful for any person to have or keep open any house, room, or other place of public resort, unless the Board certified that such place of resort conforms to their regulations; but, notwithstanding this enactment, licences continue to be granted in the cases of music-halls, &c., without calling for the certificate of the Board. Efforts, we believe, are now being made by the Metropolitan Board to get this anomalous state of things altered by fresh legislation, centering in them the whole of the licensing for the Metropolis, and we have no doubt that the late disaster will have at least one good effect, by getting rid of three bodies dealing with the subject and substituting one for the whole Metropolis, and by this means prevent buildings of a like kind being opened without first taking proper care as to the safety of the public who might have been present when the disaster occurred.

THAT the Arabs would burn the sleepers, and steal the keys and pins, of any railways left unguarded in their country, might have been anticipated, even without the justification of a state of war. Daily accounts arrive of the perpetration of this very easy mischief. The experience already attained in laying railways through the desert has been quite overlooked in the present case. The true plan to adopt is to use the saddleback rail, invented, now many years ago, by Mr. Barlow. The economy of this rail depends on the price of iron. At present rates, the cost for the entire material of such a line would not exceed from 900*l.* to 950*l.* per mile, and an almost indestructible way would be provided. Riveted together with red-hot rivets, the Barlow way would offer much resistance to any force that the Arabs could apply, unless they were disposed to burn their ammunition for the purpose. The rails, weighing 90 lb. per yard, are not easy to trifle with, and the hollow underneath affords a safe and hidden course for the cable of the electric telegraph. When the price of iron (as at present) is such as to render this rail available, it possesses many advantages. Many miles of the South Wales Railway are laid on the Barlow system, and it was also introduced with great advantage on the Bordeaux and Bayonne Railway in 1857. There is a little hardness in the running of the trains, but, on the other hand, the shocks experienced at the points are less perceptible than on ordinary lines.

SIR JOSEPH PEASE was again spokesman for the railway companies in the House of Commons on the 1st inst., in opposition to the Regent's Canal, City, and Docks Railway Bill. He opposed it ostensibly on the ground that the payment of interest out of capital,—which is proposed in the Bill,—is vicious in principle, and had been previously condemned by the House. This undertaking, like many others, offers 4 per cent. interest on the capital subscribed, during construction, and one of the speakers who supported Sir Joseph's amendment gave it as his opinion that they could not safely guarantee this. But though the Company may consider this step advisable in order to attract capital without delay, there is no reason to doubt their ability to meet their engagements. Mr. Chamberlain hinted plainly enough that the opposition was due to the great lines being opposed to competition, and although Sir Joseph found 117 supporters there was a majority of 70 against his amendment. Of course, there are many concerns floated which ought not to attempt to pay interest until they begin to realise profits from their undertakings, but the opportunity for attacking the principle alluded to was ill chosen. The House was evidently of opinion that the attack was really directed against the Bill as a whole, the point in question being selected by the railway companies as being a vulnerable one. The Standing Order permitting this practice of payment of interest out of capital was only passed by a small majority some two years ago, and the matter is one still open to discussion. It was, however, certainly not advisable to introduce it on an occasion like the present, when the construction of important works would be delayed, and the employment of capital and labour hindered, and the majority against the amendment shows that this was recognised by the House.

WE recently noticed a decision of Mr. Justice Cave as to the 193rd section of the Public Health Act. A decision of the Court of Appeal which is published in the current number of the *Law Reports*—throws further light on this section, which makes any official of a local authority liable to a penalty who is "interested in any bargain or contract" with a local board or similar body. It was decided in the case to which we are now alluding that a clerk to a local board who was a shareholder in a gas company which made an agreement to supply a locality with gas was liable to a penalty. There can be no doubt that the law in this instance dealt severely with the official, but, on the other hand, it is obvious that if an exception is made in the case of shareholders, it might in local matters and local companies open the door to arrangements undesirable in the public interests.

AN important step has now been made at Berlin in the direction of permanently affording those interested in hygienic science, the advantages which were so generally appreciated at the Hygienic Exhibition of 1883. A portion of the former Industrial Academy in the Klosterstrasse is to be fitted up as a permanent Hygienic Museum, at a cost of 3,000*l.*, and a like sum is to be spent on the arrangement of a laboratory. In addition to the above expenditure, the *Centralblatt der Bauverwaltung* announces that a professorship of hygiene will be established in connexion with the new museum. It will be remembered that many objects left over from the Exhibition of 1883 are still available for the purpose of establishing a museum of hygienic science.

WE have received a short pamphlet on the mechanical characteristics of lightning strokes by Col. the Hon. Arthur Parnell, in which are detailed the observations that have been made on these phenomena for the last hundred and fifty years. According to Colonel Parnell, popular belief invariably represents lightning as an electric current descending to the earth from the clouds, whereas a close research into electro-statical laws tends to the presumption that the direction of the lightning stroke is more often toward the opposed plate of the electrical condenser, *i.e.*, upwards. This theory is illustrated by a large number of actual observations made during the progress of a storm, and the conclusion is that we must regard the lightning stroke more as an electric mine or explosion than as a current, and that the explosion is attended with a variable development of mechanical force. Heat force is also a result of the explosion, although far less frequently than the former. A list is given by the author, in order to show not only the greater prevalence of mechanical force, but the materials which are most easily affected by either of them:—

Substances acted on.	Instances of mechanical work.	Instances of heat work.
1. Persons and animals	52	79
2. Textile materials	88	79
3. Masonry and rocks	416	2
4. Glass and china	82	5
5. Metal	206	173
6. Wood	254	98
7. Trees	63	4
8. The ground	60	—
9. Thatch, straw	—	11
10. Gunpowder	—	15
11. Gas	—	19
Total	1,221	485

If the data here given are to be relied on, it will be seen how greatly masonry and woodwork are affected by the mechanical force, and whether the fact may be turned into practical use of a preventive kind, it is, at all events, one of considerable value to those engaged in works of construction.

AN interesting example of labour-saving is now to be seen in the stone-yard at Burnley, the authorities of which town are laudably determined to be in the forward ranks of sanitary improvement. The arrangement in question is one by which the boulders that were formerly wheeled up by hand to be delivered to the tender mercies of the (Blake's) stone-breaking machine are, by means of an elevator, fed directly into the machine. When crushed, the broken stone is carried into a sieve driven by an eccentric rod, and so disposed that four sizes of chippings may be delivered direct into the cart below. Not only is a much larger quantity of material broken in a given time with better results, but there is an immense saving of labour, while the stone-breaking

itself works with greater regularity than it did when it was fed intermittently by hand. At the same establishment a pick-sharpener is employed by which one man can sharpen 800 picks a day instead of the old hand number of 180. The advantages of labour saving on a large scale are nowhere better seen than in municipal and parochial management, particularly when we consider the rapid and steady increase of expenses entailed by the extension of modern towns.

WE have received this year's instalment of the photographs taken for the Society for Photographing the Relics of Old London. This set are in the Temple neighbourhood, and include Churchyard-court, with the monuments to Hiccocks and Mead, and the slab to commemorate (it does not mark) Goldsmith's place of interment; the Garden House of Clement's Inn, with the sculptured sundial, sold in 1884 (where is it now?); Clifford's Inn; Staple Inn Hall; the interior of Gray's Inn Hall, with its richly-carved columns and frieze; Gray's Inn-Field Court; Inner Temple Gate-house; the doorway of No. 5, King's Bench-walk, with its half-columns of Corinthian order; Middle Temple Gate-house, the work of Wren, with its Ionic order and pediment; and Fountain-court. In addition is a sheet of small subjects of sculpture; among others a figure of a naval officer taking an observation, the figure which is said to have been utilised by Dickens, in *Dombey and Son*, and which was a few years ago removed from Leadenhall-street to the Minories. The figure of the boy in Panyer-alley, Newgate-street, is another of this little collection, all the items of which are of archæological interest. The whole set of plates form a very interesting record of characteristic corners of one of the most characteristic neighbourhoods of London.

AT a meeting of the "Art Workers' Guild," held in the rooms of the Century Club, on Friday last week, Mr. Geo. Simonds gave an interesting lecture on artistic bronze-founding, on much the same lines as that of his paper on the same subject recently in the *English Illustrated Magazine*, which we noticed at the time. The lecture was illustrated by diagrams, and the moral pointed was, that sculptors should be their own founders, as far, at least, as small works were concerned. The lecture, which lasted nearly two hours, was listened to with great attention.

WE have received from Messrs. W. & T. Brindle photographs of villas being erected at Orrell, near Wigan, as examples of ornamental stone-work executed by machinery patented by them about eighteen months ago, and in which the use of edged tools is discarded altogether. The workmanship, as they observe, is a series of flutings, dog-teeth, and rings, arranged to suitable designs to obtain various alternations of light and shade, and to produce harmonious enrichments "seldom seen on the flat surfaces of stone." In the latter statement we certainly concur. The promoters do not mention the name of any architect, and we presume the design is their own. They would have been wiser to have got some one who knew how to make use of such resources in a manner in harmony with architectural taste and knowledge, to design a building for them. We should recommend them to keep the designs they have sent us carefully from the sight of architects. But we do not, therefore, by any means necessarily condemn their method *in toto*. It is evident that the mechanical means which have been here used might, under better direction, be applied with effect to produce such features as rustication and general surface ornament of a simple kind, and which is composed of the repetition of small features; and as it is stated that the cost is 75 per cent. below what is required to execute similar work by hand, it may be of use under proper direction. But Messrs. Brindle had better not send any more of those photographs about. They will frighten architects away if they do.

ARCHITECTURE AT THE ROYAL ACADEMY.

CERTAINLY the most artistic of the ecclesiastical designs exhibited this year is that for the proposed memorial church at Streatham contributed by Messrs. George & Peto. There is no accompanying plan, but the church appears, so far as can be ascertained from the perspective sketch, to consist of a nave, chancel, shallow transepts, wide aisles, and a western narthex or porch. The aisles project in an unusual manner beyond the faces of the transepts, and with good effect. They are divided longitudinally into three wide bays, and are roofed transversely, covered with lead, and finished with plain gables of so low a pitch that a horizontal line at their springing is alone wanted to convert them into Classic pediments. It will have been inferred that the style chosen is a late phase of Perpendicular, very difficult to treat well, and treated in this instance with great mastery; vast areas of plain wall acting as a foil to the richly-traceried windows, and recalling involuntarily, though without the least suspicion of plagiarism, Mr. Norman Shaw's church at Ilkley, a drawing of which was exhibited eight years ago. The interior is of remarkably lofty proportions, and the line of ridge is level throughout, as in so many of the magnificent parish churches in the eastern counties. An octagonal turret marks the north-east angle of the north transept, and terminates in a conical spirelet, of which the angles of the upper half are broken into crockets. Below the springing is an open stage, each face of the octagon having a gabled head, and below this stage is a series of traceried panels, not pierced, but extremely effective, as affording an agreeable transition from the plain masonry of the lower portion of the turret to its more ornate belfry, for it is assumed that it is a bell-turret. A window placed high up in the transept gable is, however, louvred, and the bells may be placed there, in which case the turret is probably a staircase only. There are one or two little points in which the whole truth is not told, *e.g.*, inconvenient down-pipes being omitted, and an ancient look has been imparted to the fabric, which this generation, at least, will never enjoy. But these are small matters. The design is singularly artistic, and, notably, in the evidences of a wise restraint which add a sense of power to its picturesque grouping and detail, and it is needless to say that this excellence of design loses nothing by Mr. Ernest George's exquisite drawing, which, without any appearance of labour, is beautifully bright and sparkling.

If Mr. Brooks may be charged with a want of versatility he may justly plead that he succeeds perfectly within the limited range he has adopted. In his Church of St. John-the-Baptist, Kensington, he is seen at his strongest, and all his merits shine out brightly. He is wise enough to give the first consideration to solidity of construction and beauty of proportion, and he never sacrifices these to mere luxury of ornamental embellishment. Thick walls are a greater help to architectural effect than most architects are aware of or will admit, and thick walls with Mr. Brooks are a *sine quâ non*. Consequently his buildings show a breadth and simplicity which are not always found in the works of others, and with this quality he combines a propriety of detail seldom excelled in contemporary architecture. Carving, as a rule, he dispenses with, spending its cost on more essential matters. But when he allows himself a little treat of the kind his ornament is invariably good. In the particular design before us the growing fondness for an octagonal lantern at the transept crossing is exemplified; and is very successfully treated so far as the architectural effect is concerned. But it is a serious question how far the acoustic qualities of a large church would be jeopardised by this arrangement. The sounding board over the pulpit, which is placed against the eastern wall of the transept, shows that the architect's mind is not without some misgivings on this point. A Baldachino over the altar and an elaborate screen across the entrance to the chancel are noticeable features. The whole of the interior surface is intended, apparently, to be lined with ashlar, and the whole will prove a very fine church. Mr. Brooks does not, it appears, make his own perspectives, and may be considered fortunate in having an interpreter whose style of drawing in pen and ink is so well calculated to bring out the best qualities of his designs.

The same architect's design for a proposed church at Highgate does not please us so well. Its general composition is not happy, and its detail has but little to recommend it, while the arrangement of the transept rising up flush with the face of a long blank aisle wall is extremely unsatisfactory.

"Burnham Thorpe, Norfolk," is presumably an old church, and if so, it is only as an architectural drawing that it has claimed a place on the Academy walls. It has, however, no particular merit as a drawing, and its author may, indeed, be congratulated in getting it so well hung, when so much good drawing, and good design to boot, is known to have been turned away. And this offers a convenient opportunity for a word on the subject generally. It is beyond dispute desirable that the Architectural Gallery should be the exponent of contemporary architectural design. The mere representation of ancient architecture should take its chance with the bulk of the exhibits. If good enough as artistic work, it should go with Mr. Waterhouse's Taormina sketch of this year to the water-colour room,—or if in monochrome, to the room now provided for works of that class. If the architectural room is to be open to all pictures having architecture for their *motif* by whomsoever drawn or painted, it is not difficult to see that the unfortunate architects will illustrate the old story of the cuckoo in the sparrow's nest, and be gradually thrust out of their nominal home. There is an unusual amount of such drawing this year, and the designs of architects of acknowledged skill have been rejected, whilst leaves from students' sketch-books have usurped their place.

It is no doubt sufficient to put this view before the President and Council to ensure a more discriminating selection in future, and the reservation of the architectural gallery for architectural designs.

LETTER FROM PARIS.

THE great event of last month has been the Town-hall ball, of which we have before spoken, and which has not only been a great success, but has contributed to forward the interior decoration of the new Municipal Palace, and on that account merits a special word.

Undoubtedly the old Hôtel de Ville, with its artistic *chefs d'œuvre*, its ceilings decorated by Lehmann, Picot, Cabanel, Ingres, Delacroix, and so many other masters of the French school, its columns of marble and gold, its furniture, in a style rather heavy perhaps, but so completely in harmony with the ornamentation of the saloons, was an incomparable setting for the *fêtes* given under the Empire by Baron Haussmann. On this occasion everything had to be done afresh; the rooms are scarcely finished, the columns and ceilings still the colour of stone; no painting relieved that general crude whiteness. Furniture, tapestries, lustres, chandeliers, — all were lent for the State. Nevertheless, such was the ability of the architects directing it, that this improvised luxury had no appearance of anything unusual.

The evening before the *fête* at the Hôtel de Ville, a rich financier, M. Gaillard, inaugurated by a grand fancy dress ball, his new mansion in the Place Malesherbes. This is a beautiful building, the exterior aspect of which recalls the ancient portions of the Château de Blois. The architect, M. Fevrier, has endeavoured to revive the architecture of the royal residence constructed under Louis XII. In this he has succeeded remarkably, and the façade of the building, with its large windows with stone dressings, its decorative balconies, its walls ornamented with red and black tile designs, its roofs crowned with leaden ornaments, constitutes an original and elegant design, of which we hope to give an illustration before long.

In regard to the annual *Salon* now open, the contents whereof will be specially treated of in other columns of the *Builder*, we may note a recent important decision, due to a certain number of the members of the Société des Artistes Français, and which will be productive, probably, of very good results; we mean the inauguration of a lottery which will be devoted each year to the purchase of works of art exhibited. The price of tickets is fixed at 100 francs (4*l.*), and the drawing will take place the month following the closing of the *Salon*.

This is not the only innovation this year, and most of the persons accustomed to enter the *Salon* gratuitously on "Varnishing Day" were

taken by surprise on that Wednesday, when they found that, with the exception of exhibitors and art-critics, no one was permitted to enter the precincts under a fee of 10 francs, to go to the poor and the wounded at Tonkin. While speaking of the *Salon*, we may add that this year MM. Ch. Garnier, Questel, Brune, Bailly, Vaudremer, and Sédille were appointed the jury in the department of architecture, with MM. Raulin and Ginain as assistant members.

Since our last letter, which gave some account of the exhibition of the works of Gustave Doré, the paintings, water-colours, drawings, and sculptures of that remarkable artist have been dispersed by auction. The whole proceeds of the sale have been 196,000 francs, which is little enough. The highest price was given for the design entitled "Le Rhin Allemand," which reached 2,000 francs; the large drawing of Epsom Race-course sold for 900 francs; a magnificent water-colour of the London Docks went for 500 francs. Among the pictures, the "Mort d'Orphée" reached 2,400 francs; the "Marchant de Fleurs de Londres" sold for no more than 1,600 francs. This is evidently not the time for artistic sales. The preoccupations of politics thrust art on one side, and yet the private exhibitions have succeeded each other without interruption, and have drawn numbers of visitors. That of the pastellists, of which we have already spoken, is a remarkable one, and does the greatest credit to M. Roger Ballu who organised it. Independently of the old masters, the retrospective exhibition of whose works is of the greatest interest, we see here, among the moderns, M. Gervex, whose nude figures are treated in a luminous and charming key; M. Duez; M. John Lewis Brown, whose chasseurs in red dresses and his cavaliers under the shade of trees are to be noted; M. Emile Levy, represented by a number of portraits; and, lastly, M. de Nittis, who, in spite of real talent, makes a serious mistake in offering a disagreeable *mélange* of affectation and deliberately chosen "impressionism."

Affectation is the fault with which one must also reproach M. Tissot, a French artist well known on the English side of the Channel. M. Tissot has always put one or another affectation into his works. After having conscientiously imitated for some fifteen years the painters of the sixteenth century, in an archæology more faithful than agreeable, he has now become a converted modernist, and the fifteen pictures which he exhibits at Sedelmayer's, under the alluring title, "La Femme à Paris," profess to detail the quintessence of the various aspects of the elegant Parisienne. Making allowance for paradox, the exhibition is not uninteresting. M. Tissot's painting is clear, bright, and amusing. He has learned a good deal among the masters of the English schools, and his paintings have a *je ne sais quoi* of piquancy, pleasing and seductive, like the slight foreign accent which sounds so well on the pretty lips of an English woman speaking our language.

The exhibition of the works of Delacroix has at last closed its doors. The sum raised thereby for a monument to him is about 67,000 francs. A few days since the Salle Melpomène, at the École des Beaux Arts, gave asylum to an exhibition of portraits "du Siècle," organised by a philanthropic society, and which counts not less than 400 pictures. We find among this collection the works of David, Gros, and Baron Gérard; Baudry elbows Ricard and Fantin by turns; Ingres is the neighbour of Manet. The pearl of the collection is unquestionably the portrait of Napoleon I., by Ingres.

Not far from the École des Beaux Arts, at the elbow formed by the Palais de l'Institut on the Quai Malaquais, the statue of Voltaire will shortly be erected. The pedestal, of which the foundations are commenced, is the work of M. Formigé, whom the Municipal Administration have had the good fortune to engage in the capacity of architect for the "Service des Promenades." On the other bank of the river, in the midst of the Cour du Carrousel, the work has been commenced for the erection of the monument to Gambetta, of which M. Aubé is the sculptor and M. Boileau the architect. The monument, about 23 mètres in height, is composed of a pedestal in the form of an obelisk adorned by two figures representing "La Vérité" and "La Force." On the principal face of the monument is the figure of Gambetta dominated by a genius unfolding a standard, and surrounded by soldiers whom he cheers on to combat. Various inscriptions taken from his discourses pronounced from the Tribune, and a winged lion placed at the summit of the obelisk, will complete the monument, which will be finished about the end of the year, and will stand just in front of the Arc du Triomphe of the Carrousel. Possibly the excavations for the foundations may lead to some interesting archæological discovery on the site of the old Louvre, where already, some years ago, there were found, in installing an electric apparatus, fragments of faïence ornamented with animals which came certainly from the ancient kilns of Bernard Palissy.

Since we have come on the subject of statues we must not forget the new competition opened to give Paris a statue of Jean Jacques Rousseau. We may observe also that the statue of Béranger, the work of the sculptor Doublemard, will be shortly inaugurated in the square of the Temple, not far from the street in which the famous "Chansonnier" died, and which bears his name.

It is announced that the Government intend at last to take steps to ensure, at an early date, the restoration and repair of the Porte St. Denis. Among the monuments which the age of Louis XIV. has left to Paris this is one of those which has been most sorely tried. The sculptures with which it is decorated are greatly damaged; the groups representing the Rhine and Holland captive, are literally falling in pieces; and the Municipal Council have already for a long time implored that the preservative measures which had become absolutely necessary should be taken. It is high time to do so if this curiosity of Paris is to be preserved and some fatal accident prevented. It was in 1678 that the Porto St. Denis was built, from the designs of Blondel.

It will be very necessary, on the same occasion, that the new "Ministre des Beaux Arts" should take some decision relative to the crowning of the Arc d'Étoile. The temporary group which M. Falguière built up there two years ago threatens ruin, and, in fact, the monument itself has no need of that adjunct, which disagrees with its architectural style and spoils its fine proportions. Let us hope that enormous timberwork of Damocles suspended over the heads of promenaders will soon disappear for good.

Lastly, as the Government is beginning tardily to occupy itself about works long since recognised as necessary by the general good sense of the public, it is time to take precautions against the complete deterioration of the celebrated hemicycle which Paul Delaroche painted in the "École des Beaux Arts." The climate of Paris is decidedly unhealthy to mural paintings, and the dampness which saltpetres the walls of public edifices will end by destroying that remarkable decoration, at the same time that it attacks the works of Flandrin at St. Vincent de Paul and St. Germain de Prés. Accordingly the Service des Beaux Arts of the Municipality has rigidly interdicted mural painting, and all the artistic works ordered now for the decoration of municipal edifices are painted on canvas to be applied to the walls.

To the list of works in course of construction, we must add the exhibition-room which it is proposed to create in the Musée de Cluny, between the buildings of the ancient Abbaye and the ruins of the Palais des Thermes. The construction of this work necessitates the removal into the garden of the hôtel of the portal of the ancient church of St. Benoît, which will be an operation requiring minute and delicate care.

With the exception of this portal, well known to archæologists, and some other interesting bits of architecture, Cluny is really no more than a museum of decorative art and furniture of the Middle Ages and the Renaissance; while, for the comparative study of architecture, the new museum of casts at the Trocadéro constitutes a precious source of artistic and historic instruction. It is in this respect that we notice the new room which is nearly finished at the Trocadéro, and which contains casts of the finest work of the sixteenth, seventeenth, and eighteenth centuries. The art of sculpture is nobly represented, and the new room completes very happily a collection in which the national genius is represented in all its originality, thanks to the exact reproduction of the *chefs d'œuvre* of sculpture and architecture in their true dimensions. It is incontestable that the Museum of the Trocadéro is a creation of the highest value from the point of view of popular art education.

The Museum of the Louvre is also the object just now of important improvements. Besides the repairs and improvements in the picture-galleries, which will soon be completed by the junction with them of the ancient *Salle des États*, warming apparatus is being installed in the ground-floor, which will enable artists to work there at all seasons of the year.

We will conclude by giving a few lines to an artist of talent who has died at Paris in the prime of life; we refer to Auguste Laneyre, who was a draughtsman and etcher of real power. We may name among his works an interesting collection of drawings made in the Franco-German War; an album of drawings of animals, and some very curious studies which he collected under the title of "La Rue à Londres," and which constitute a work extremely interesting, original, and full of spirit.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE NEW COUNCIL.

AT the fifty-first annual general meeting, held on Monday evening last, the Council were elected for the ensuing year of office, namely:—

President.—Mr. Ewan Christian.

Vice-Presidents.—Messrs. Edward I'Anson, F.G.S.; Alfred Waterhouse, A.R.A.; and Thomas Worthington (Manchester).

Members of Council.—Messrs. Cole Alfred Adams, George Aitchison, A.R.A., James Brooks, Arthur Cates, Charles Roberts Chorley, J.P. (Leeds); Joseph Clarke, F.S.A.; Henry Currey, William Milner Fawcett, M.A., F.S.A. (Cambridge); Charles Fowler, James Fowler, J.P. (Louth); John Gibson, Edward Augustus Gruning, Octavius Hansard, Professor Thomas Roger Smith, and Aston Webb.

Hon. Secretary.—Mr. John Macvicar Anderson.

Secretary.—Mr. William Henry White.

COMPETITIONS.

"*Wesley*" *Chapel, Preston.* — A limited number of architects having been invited to send in competitive plans for the enlargement and restoration of the above chapel, the building committee have decided to adopt the plans and designs furnished by Mr. David Grant, of Preston. It is proposed to begin operations at once, under the supervision of that architect.

Beverley Cottage Hospital.—The Building Committee, at a meeting on the 30th ult., opened the tenders for this building, and Mr. Blackburn's tender, reduced to 1,725*l.* 11s. 5d., through the substitution of slates for tiles, was accepted, subject to the approval of the plan by the Charity Commissioners. At the same meeting the following letter was read, but no action was taken upon it:—

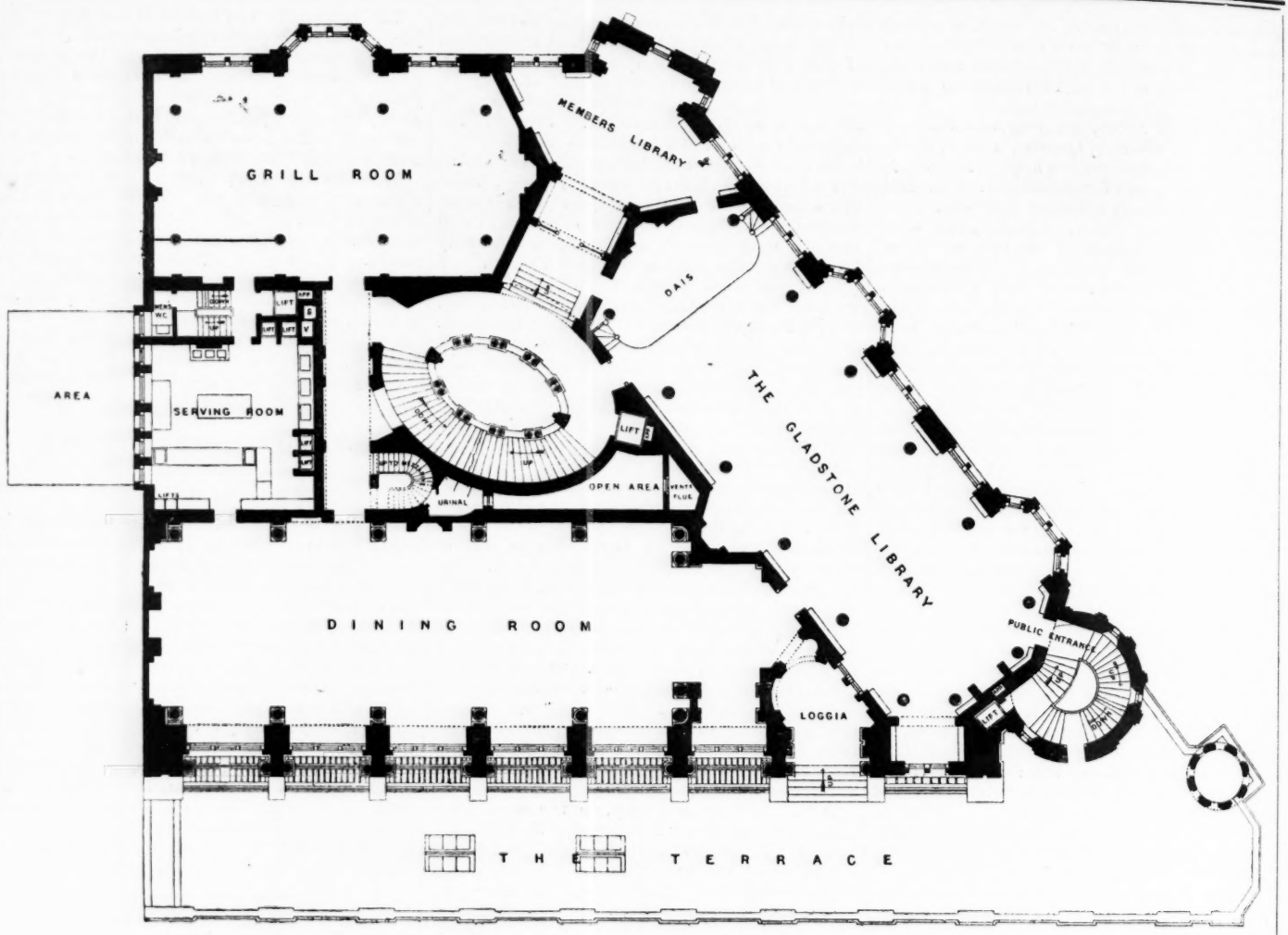
"Gentlemen,—We, the undersigned, beg to protest against the decision arrived at on the 9th inst., and the acceptance of the designs of Messrs. Smith & Broderick, on the following grounds, namely:—(1) That the accommodation required as set forth in the printed circular is not provided; (2) That the general plan and arrangement is limited, and far from satisfactory; and (3) That in our opinion at least six other designs were superior to the one accepted, five of which could have been carried out without any deviation for the sum allowed, viz., 1,750*l.*

Under these circumstances we consider the appointment of these architects to be most unfair to those competitors who were induced (by the advertisement to compete (on two separate occasions), on the assumption that their designs would be impartially considered, and that the best would be successful.—We have the honour to be, gentlemen, your most obedient servants,

WILLIAM HAWE.
R. COULSON.
LIGGINS & CARTWRIGHT.
April 28." W. T. BULLER (Health).

Lowestoft Cemetery.—We are informed that the first premium in this competition has been awarded to Mr. William Doubleday, of Colmore-row, Birmingham, and the second to Messrs. Bellamy & Hardy, of Lincoln. About forty designs were submitted to the Burial Board.

International Inventions Exhibition.—It is stated that careful attention has been given to the drainage at the International Inventions Exhibition, and that Mr. Bennison, the surveyor, has completed what was partially done at the Health Exhibition in applying the Banner system to the whole of the drainage of the exhibition by carrying up ventilating-shafts from all the principal drains and fitting the same with Banner extracting ventilators and Banner down-draught ventilators. These ventilators have also been used for the ventilation of the staff rooms.



PLAN OF THE UPPER GROUND FLOOR.

The National Liberal Club.—Mr. A. Waterhouse, A.R.A., Architect.

Illustrations.

THE NATIONAL LIBERAL CLUB.

THE new buildings of the National Liberal Club will occupy an area of 23,750 ft. The site is bounded on the north and west by Whitehall-place and Whitehall-avenue; on the east it faces the gardens of the Thames Embankment, while on the south the club-house will join the new buildings of Whitehall-court. From the main entrance, at the corner of Whitehall-avenue and Whitehall-place, a vestibule leads into the hall or principal corridor, on the left of which is a reception lobby, and on the right beyond a porter's room, and a post and telephone office; a second hall leads into the conference-room. To this there is a separate entrance from Whitehall-avenue, so that it is accessible from the street without the necessity of passing through the Club. At the end of the hall, opposite the main entrance, is the principal staircase, which rises from the basement to the first floor. It is of elliptic form, and the steps, which are 8 ft. wide, are supported at either end by an outer and an inner wall. The outer wall is solid, but the inner is formed into a continuous ascending colonnade of various and richly-coloured marbles; at the foot of the first flight of steps is placed the entrance to a passenger lift, which will connect the various stages of the Club. From the end of the hall a descending flight of steps leads under the main staircase to the level of the smoking-room, 8 ft. 6 in. below that of the street. This room, which is 102 ft. by 35 ft., and 23 ft. in height, is provided at its eastern end with a bar and an entrance for servants; while in the south wall a doorway leads to a short flight of steps which ascend to the range of billiard-rooms placed under the terrace. Of these rooms, which are 13 ft. 6 in. in height and average 25 ft. by 18 ft. in area, it is proposed to construct some with top lights for use by day. Under the entrance to the conference-room there will be a tradesmen's way to the basement, where the steward's and receiver's offices are situated. The basement also contains, besides men-servants' bedrooms, a large room for members' portmanteaus and other effects, a boiler-room, an engine-room containing the dynamos for electric lighting, and a fresh air chamber, from which air will be conducted to the various up-shafts throughout the building. From the boiler-room, steam is provided for the cooking and laundry operations.

Besides the main entrance and that to the conference room, there is yet another entrance from Whitehall-place, at the foot of the tower in the north-east angle of the building. This is for the benefit of such non-members as may be admitted to the privilege of the Gladstone Library. This library is placed over the smoking-room, and will be 102 ft. in length, 35 ft. in width, and 24 ft. in height. It can be approached from the above-mentioned public staircase, from the dining-room, which overlooks the river, from the principal staircase, or from the members' library, into which a doorway leads off the raised dais at the west end of the room. To increase the space available for books, the library is provided with a gallery which runs entirely round the room between the detached columns and the wall, and is accessible from the staircase at either end. The two principal rooms on the upper ground floor, besides the Gladstone Library and the smaller library for members, are the grill-room and the dining-room. The first of these looks into Whitehall-avenue, and the second is on the east of the building. The service-room, which is supplied by seven lifts, lies between these two, which are also connected by a corridor, out of which a small staircase ascends to a mezzanine for lavatories. From the dining-room there is an access to an open loggia, and thence down a flight of five steps to the broad terrace overlooking the Embankment. The dining-room, it may be mentioned, is 108 ft. by 38 ft.; the grill-room 63½ ft. by 35 ft.; both these rooms being 24 ft. in height and 15 ft. 6 in. above the level of the street.

The first floor is occupied by a reading and writing-room, over the Gladstone Library; a smoker's reading and writing-room, over part of the dining-room; and a drawing-room over the members' library. There is also on this floor a private dining-room, and a committee-room, which can be used as a dining-room. All along the eastern front there runs a balcony, accessible from a loggia between the two reading and writing rooms, and commanding a splendid view down the river. At this floor the principal staircase ceases, and with it the club proper; the upper storeys being reached by the staircase in the tower, or by the adjoining lift. The office of the secretary has been placed on a mezzanine between the first and second floors. His clerks will have a room on the first floor, reached from his office by a private staircase.

The second floor is devoted to chambers, bedrooms, or bedrooms and sitting-rooms combined, some of which have spacious balconies placed over the bay windows of the floors below. The third floor is a repetition of the second, consisting of bedrooms, sitting-rooms, bath-rooms, &c. The fourth floor is partly occupied by chambers, and partly by rooms for officials and servants; but the two departments are kept entirely distinct. The steward's room, butler's room, pantry, &c., look into the central space over the skylight of the principal staircase, while the members' rooms occupy the external frontages. The kitchen and scullery are placed on this floor in the south-west angle of the building, in direct communication with a service-room, into which the lifts ascend. Adjoining is a large still-room, with lifts descending to the various serving-rooms. The laundry store-rooms, housekeeper's rooms, and maids' bedrooms are provided on the fifth floor. The tower staircase ceases when it reaches the 4th floor, but from that point a smaller spiral stair

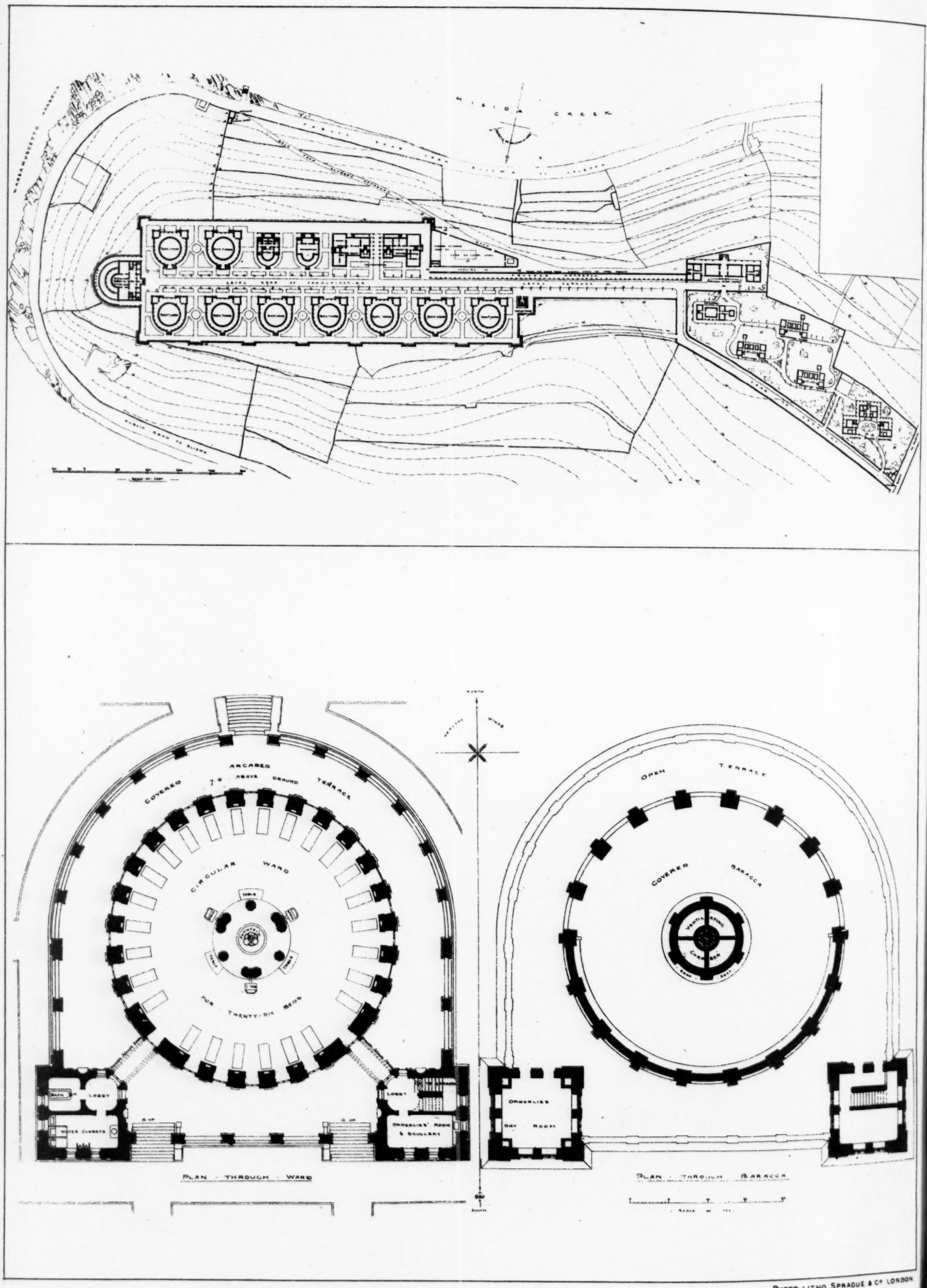
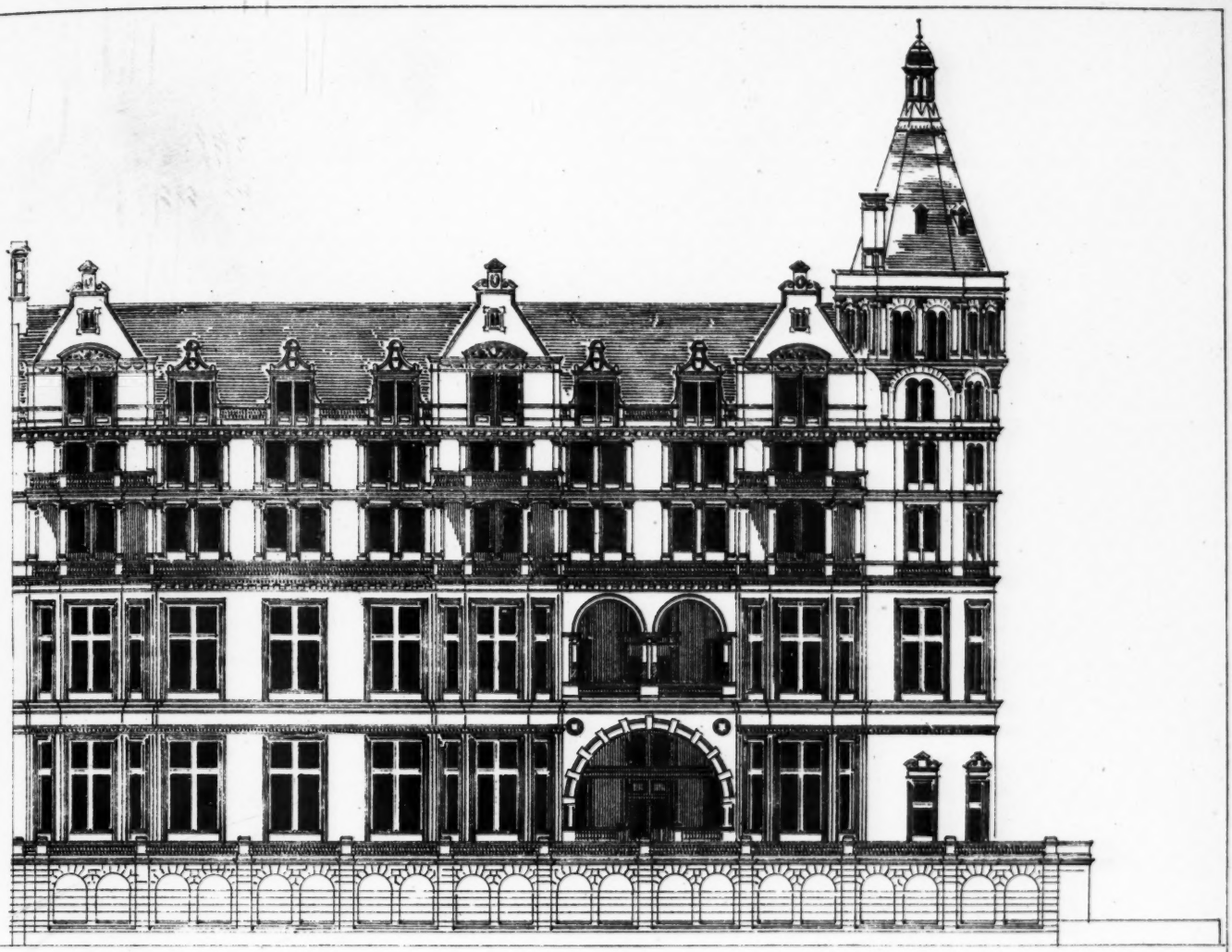


PHOTO-LITHO. SPRAGUE & Co LONDON.

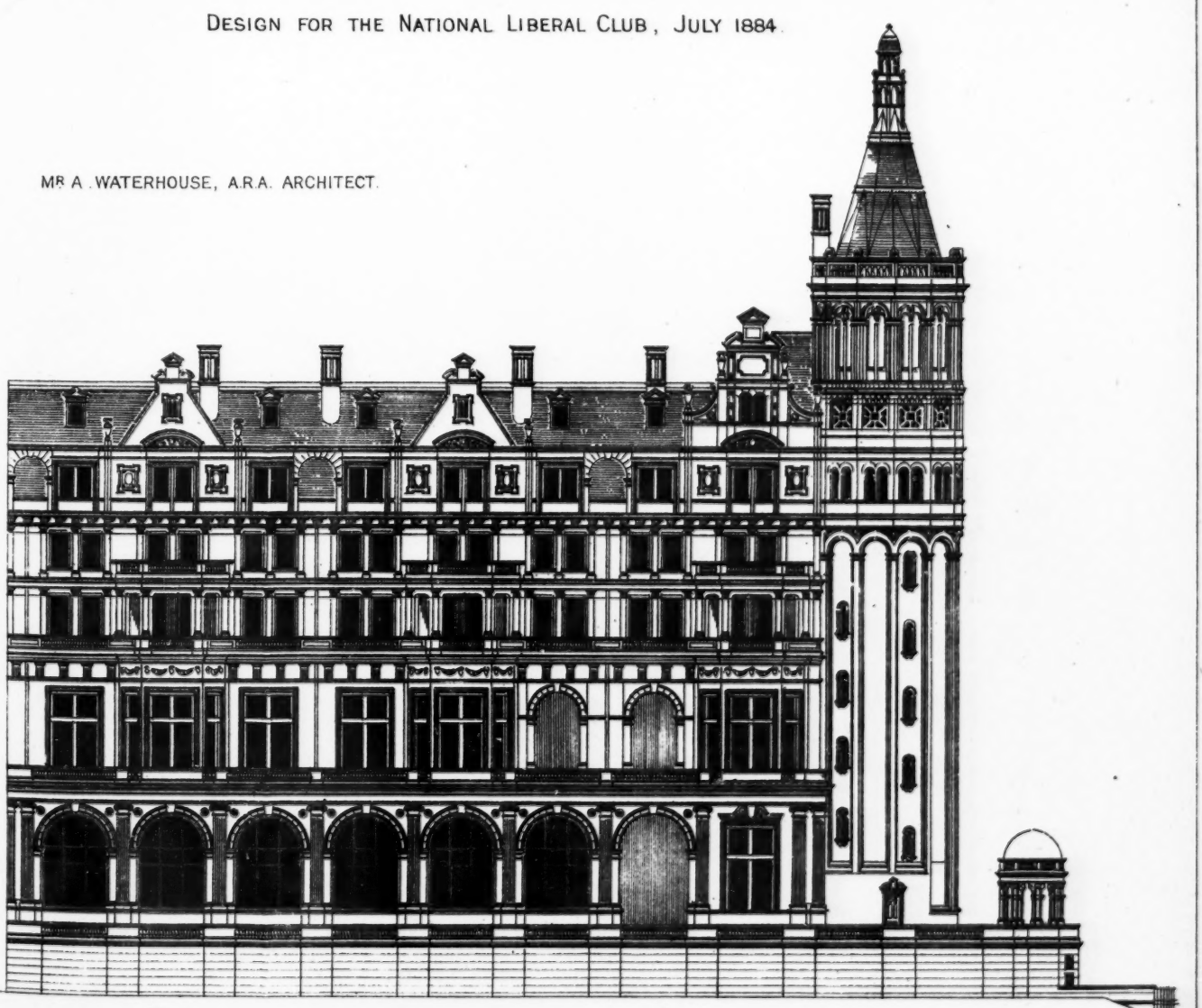
DESIGN FOR A MILITARY HOSPITAL FOR A HOT CLIMATE.

By Sir Andrew Clarke and Mr. E. Ingress Bell.



DESIGN FOR THE NATIONAL LIBERAL CLUB, JULY 1884.

MR A. WATERHOUSE, A.R.A. ARCHITECT.



DESIGN FOR THE NATIONAL LIBERAL CLUB. NOV. 1884.

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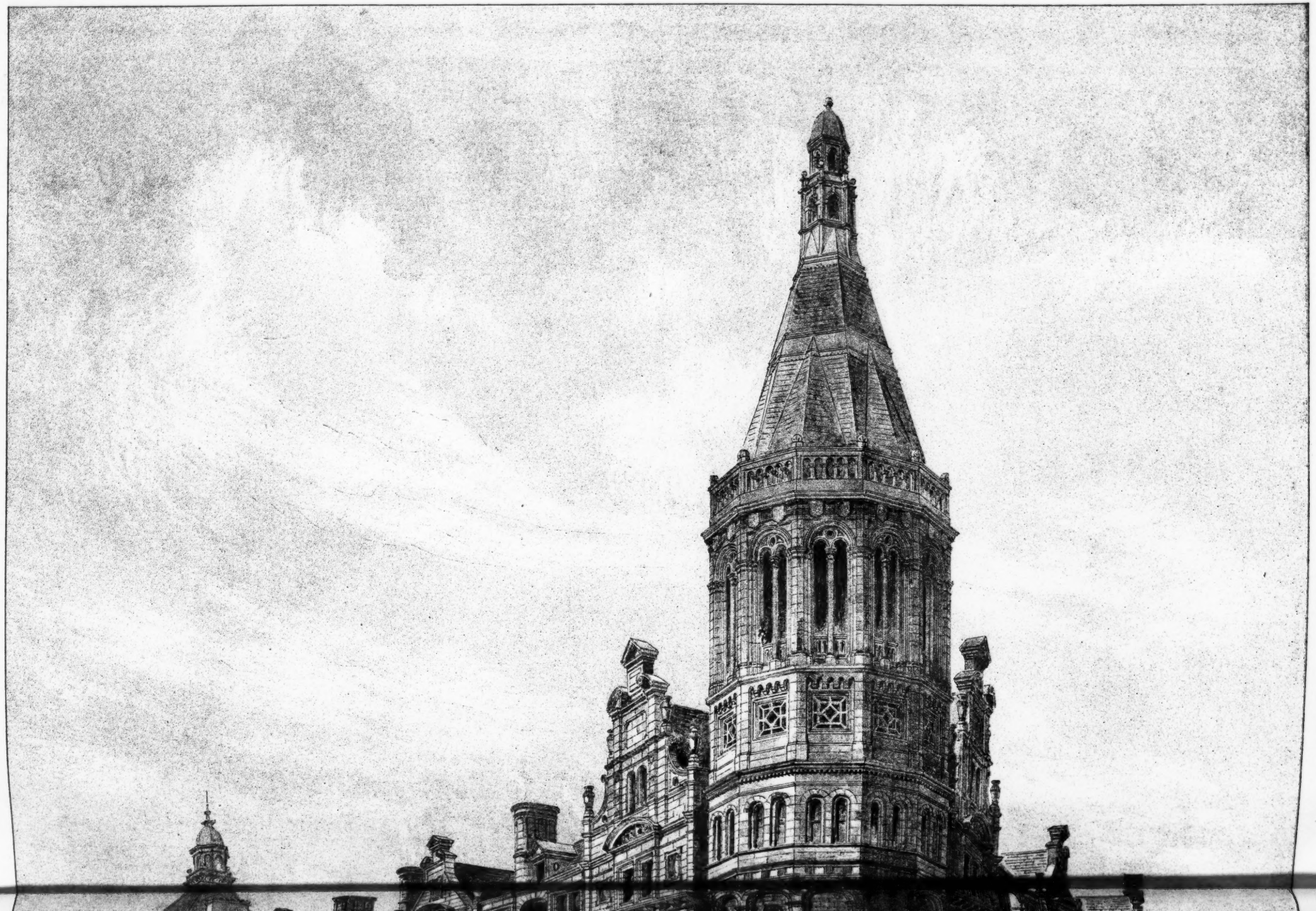
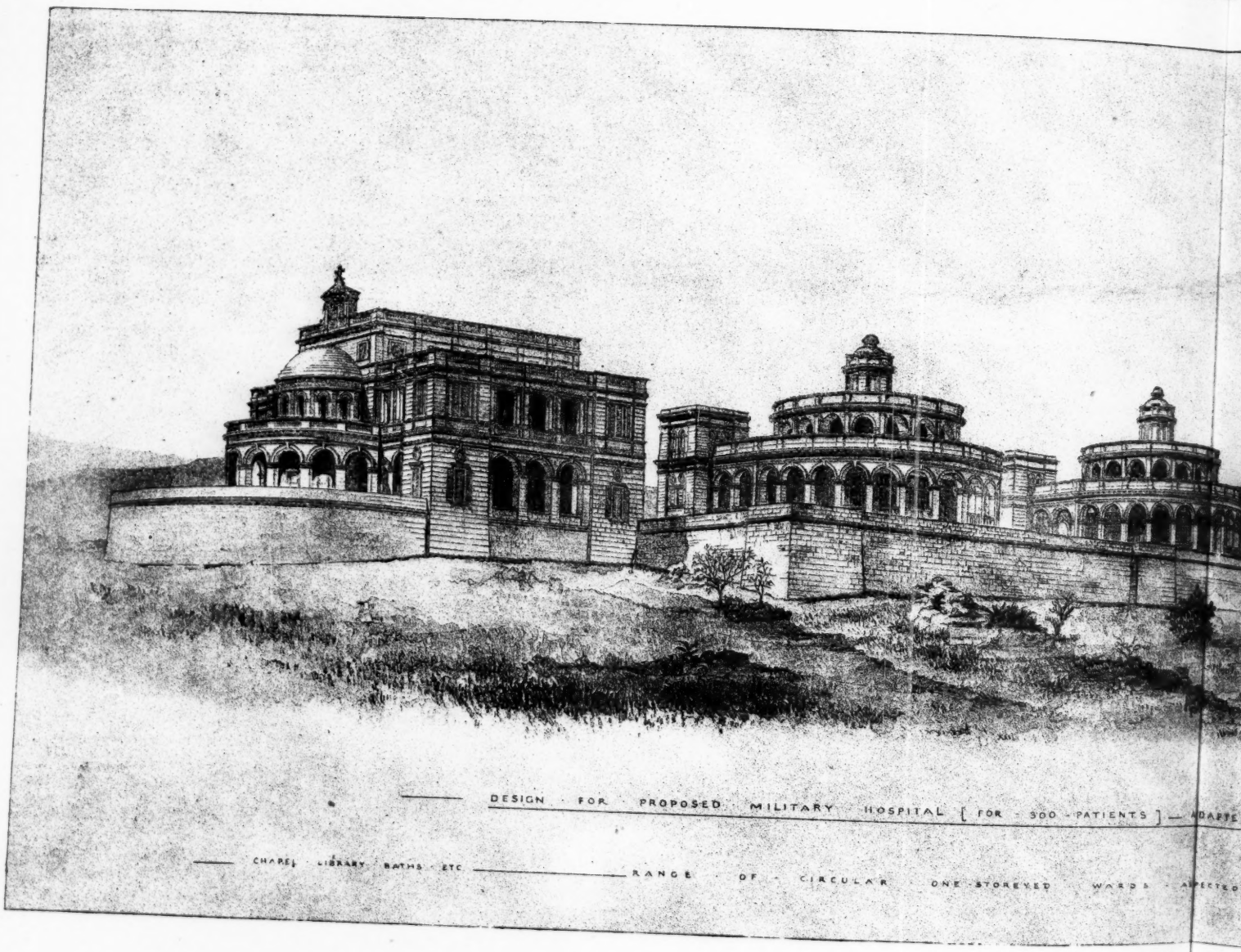
PHOTO-LITHO. SPRAGUE & Co. LONDON

INK-PHOTO. SPRAGUE & Cº. LONDON.

THE NATIONAL LIBERAL CLUB.

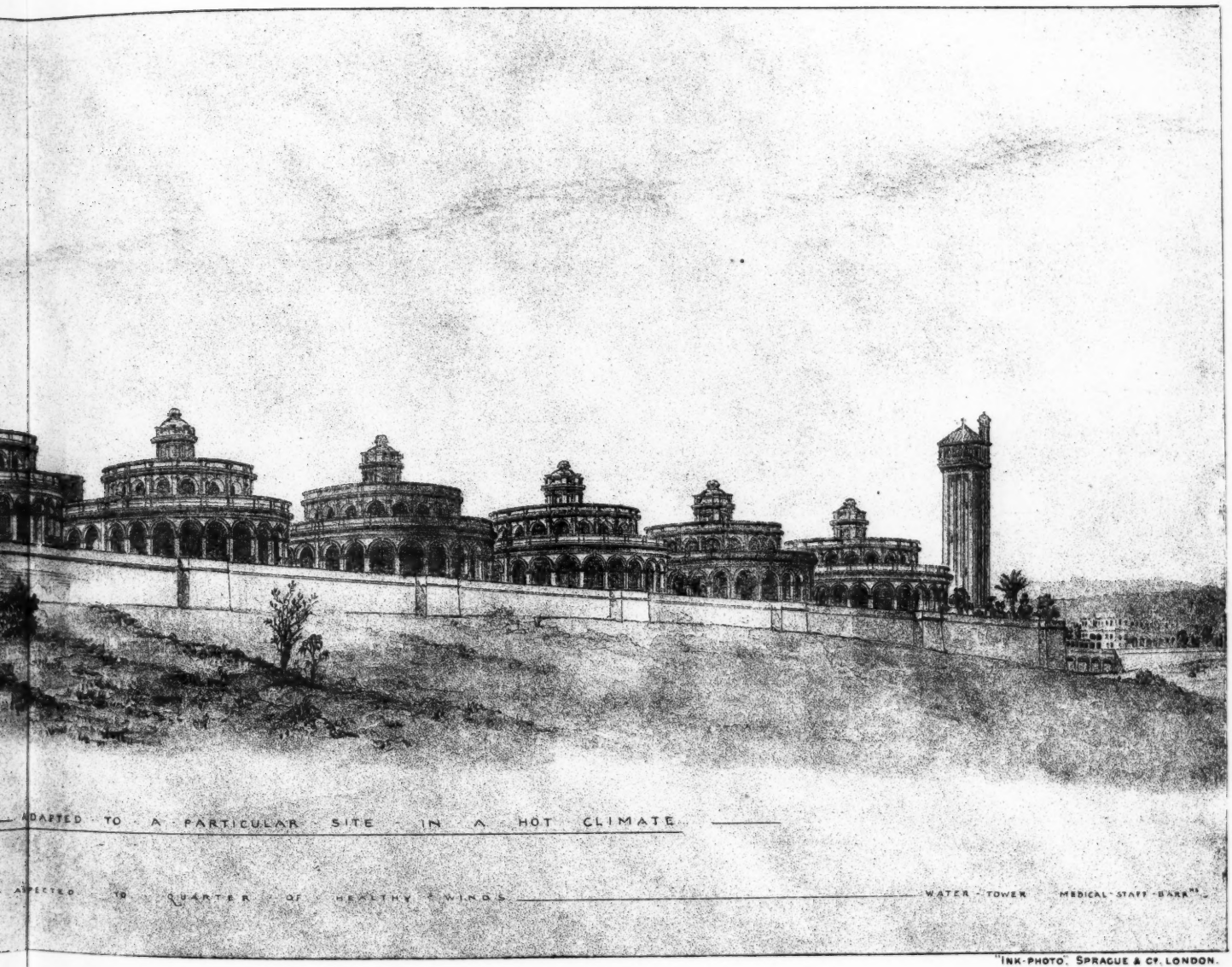
MR. A. WATERHOUSE, A.R.A., ARCHITECT.




DESIGN FOR PROPOSED MILITARY HOSPITAL [FOR 500 PATIENTS] — ADAPTE
CHAPEL LIBRARY BATHS ETC RANGE OF CIRCULAR ONE STOREYED WARDS

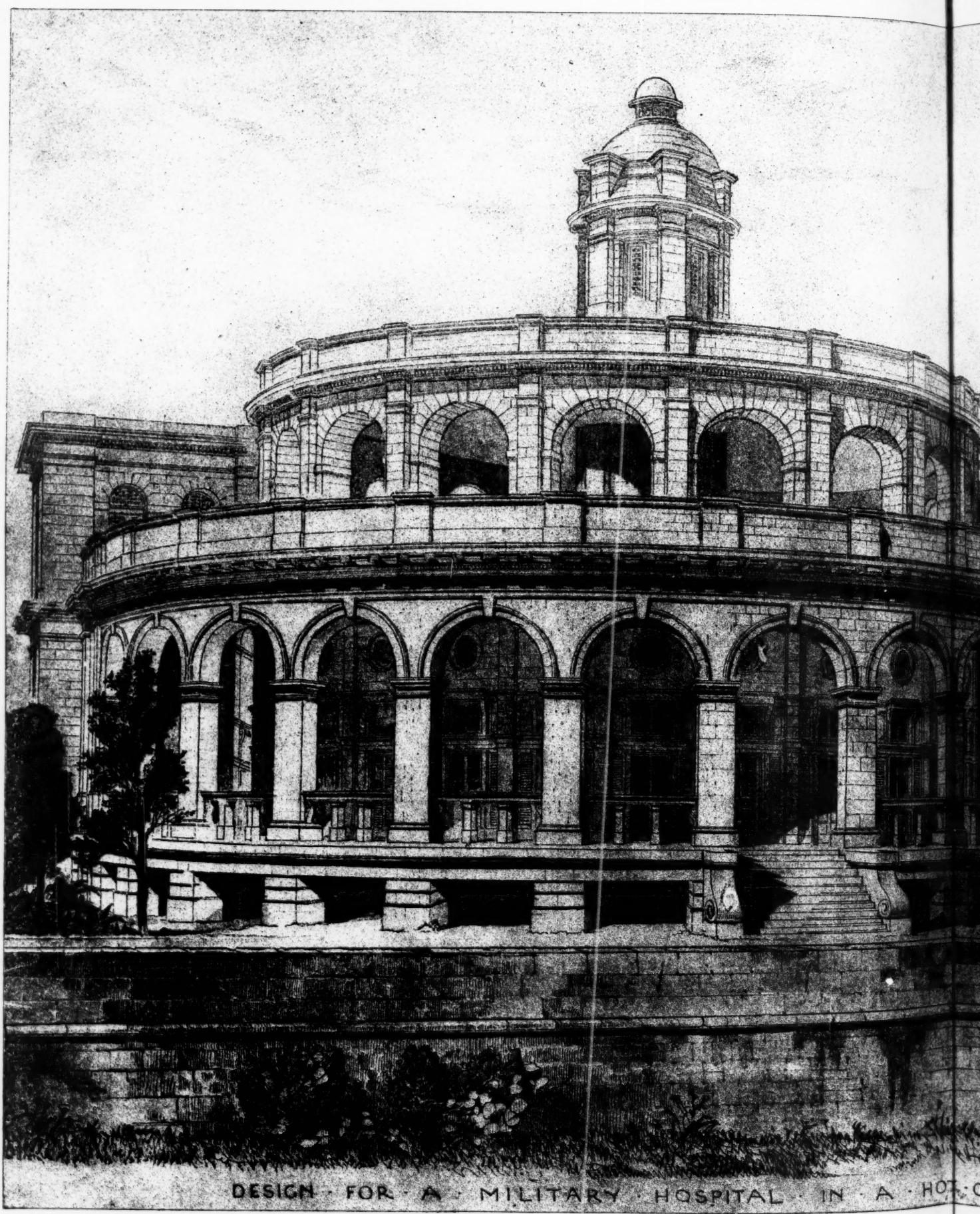
DESIGN FOR A MILITARY HOSPITAL F

By Sir Andrew Clarke and Mr. E


ADAPTED TO A PARTICULAR SITE IN A HOT CLIMATE
ASPECTED TO QUARTER OF HEALTHY WINDS
WATER-TOWER
MEDICAL-STAFF-BARRS
"INK-PHOTO". SPRAGUE & Cº. LONDON.

HOSPITAL FOR A HOT CLIMATE.

E AND MR. E. INGRESS BELL.



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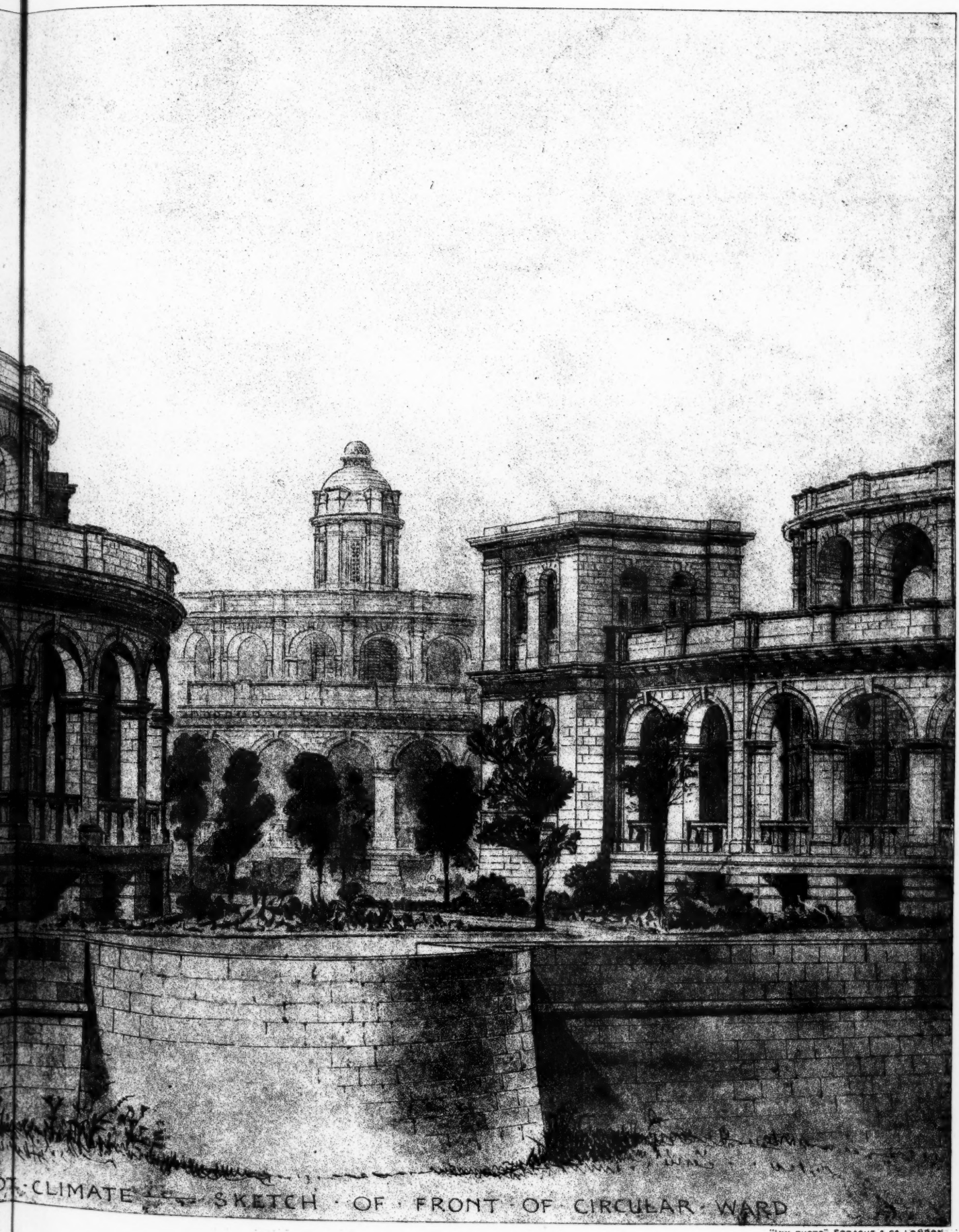

T. CLIMATE — SKETCH OF FRONT OF CIRCULAR WARD

"INK-PHOTO" SPRAGUE & Co. LONDON.

leads to the belvidere at the summit of the tower — from which, it is expected, an almost unique view will be obtained of the river and its bridges towards St. Paul's.

As regards the building generally, it may be observed that the whole of the structure will be fireproof; constructional woodwork is entirely avoided, and the beams and columns will be cased and filled with incombustible material. The apartments, generally, will be characterised rather by their size and cheerfulness than by elaborate decoration; though the main staircase, from its rich material and play of light and shade, will make the centre of the building more than ordinarily attractive, and enable the National Liberal to vie, at least in this respect, with the other club-houses of London. The style selected by Mr. Waterhouse has been that of the Early Renaissance; the exterior will be entirely of Portland stone, the roof being covered with green Westmoreland slates. The most noticeable external feature is the tower in the north-east angle, which, though severely plain in the lower stories, increases in richness and intricacy as it detaches itself from the gables which lead up to it on either side.

The foundations, in course of construction, are in the hands of Mr. Lovatt, of Wolverhampton.

SARACENIC CAPITALS.

PRELIMINARY DESIGNS FOR THE NATIONAL LIBERAL CLUB.

THE two elevations for this building, of different dates, are published at the request of Mr. Waterhouse, who sends us the following letter in reference to them:—

"Sir,—In November last, writers, both in your journal and in the *Pall Mall Gazette*, appeared to have come to the conclusion that, owing to the undue interference of the Office of Woods and Forests, I was unable to carry out my original intentions with reference to the National Liberal Club in Whitehall-place.

I sent a letter to the *Pall Mall Gazette* to correct misapprehensions on the subject, but as I failed to convince its correspondent, "F.R.I.B.A.," and as I did not at the time reply to yours, "F.S.A.," I avail myself of your courtesy (as you are illustrating the National Liberal Club by a fac-simile of my perspective drawing) to publish a fac-simile of my first attempt, early in July last year, at the elevation towards the Embankment, with another of the same elevation as it had developed in November last.

A comparison of the two will prove at a glance that there has been very little change in the style of the elevation, nor more in the details than might reasonably have been expected, and that, consequently, the charge of excessive interference made against the officials of her Majesty's Office of Woods and Forests ought to fall to the ground.

A. WATERHOUSE."

SARACENIC CAPITALS IN THE CASTLE OF ST. ALJAFERIA, SARAGOZA.

THESE three boldly-carved capitals are said to be all the remains that are left of the artistic work of this old Moorish castle, of which most of the original work has been obliterated either by time and ruin, or by alterations by Mediæval builders.

A PROJECTED MILITARY HOSPITAL.

THE site for which this hospital has been designed consists of a rocky promontory, jutting into the Mediterranean, and rising from the sea at an angle of about 20 degrees. Its central ridge runs almost due east and west, thus giving an extended exposure towards the cool quarter, and to the healthy northern winds which fortunately prevail for nearly nine months in the year. The whole of the buildings have been disposed in such a way as to turn this characteristic of the site to the best advantage.

It is approached from the western side by a public road, and on the south-east is accessible by water from the barracks and garrison.

A considerable depression in the site renders it necessary to break the hospital buildings into two main sections, which are connected by a broad terrace, carried upon arches over the intervening valley, and inclosing the engine and boiler rooms, the coal-stores, water-tanks, &c.

Abutting on the public road are the official residences, and in an adjoining enclosure special wards for ophthalmic and other cases requiring isolation. Barracks for the medical staff corps or nursing orderlies, and wards for prisoners and lunatics, complete this portion of the establishment. A covered cloister-like passage

gives sheltered access from this outlying series of scattered buildings to the hospital proper. The latter comprises nine pavilions for the sick, an operating-theatre, with preparation and recovery wards attached; a dining-room for convalescents; an administrative block, with medical officers' offices, dispensary, drug-stores, &c., and under the same roof the kitchen and accessories. Above this range of buildings the general stores for the hospital are accommodated.

At the eastern end of the site an important block of building includes the chapel, with vestry and chaplain's room, quarters for a small staff of nursing sisters, reading-room and library, and in the basement a complete series of salt water and medicated baths. A lofty water tower, of Florentine character, marks the opposite extremity of the hospital range. A special road on the south side of the rock leading to the engine-rooms, &c., enables the workmen to attend to their duties without entering the precincts of the hospital. Opening from this road on the lower level is an enclosed yard where the laundries, post-mortem room, mortuary, ice-making establishment, &c., are placed, out of sight of the hospital inmates.

The distinctive feature of the design is the use of the circular form for all the larger wards. These circular pavilions are 66 ft. in internal diameter and 22 ft. in height to the centre of the ceiling, which is an extremely flat semi-ellipse. They are each intended for twenty-six patients. Each patient will have a wall space of 8 ft., a floor area of 130 ft., and an air volume of 2,600 ft. An arcade 14 ft. wide surrounds each ward; concentrically on the north, but on the east, west, and south sides drawn in right lines tangential to the enclosing circle. At the south-east and south-west angles square towers enclose the sanitary services, the orderlies' rooms, and staircases. Above the ward an open arcaded story,—locally known as a "Baracca" and figured in Sir Gardner Wilkinson's book on Ancient Egypt as having been used thousands of years ago by that remarkable people,—will not only afford an airing-ground for those patients who are able to avail themselves of it, but also give the means of doubling the normal occupation of the hospital in times of emergency. From the centre of the ward ceiling, and carried by a ring of stone columns, a cylindrical ventilating chamber rises, built up through the "baracca" and terminating 20 ft. above its roof in a domed cupola. The wards are raised on a hollow basement 7 ft. high, and the whole site is made up to the highest point of the rock and enclosed by escarp walls broken picturesquely into shallow bastions. The ward windows are wide enough to allow of the exit of a bed on castors into the inclosing arcade. Fresh air is admitted behind each bed, and through lunettes at the springing of the domed ceiling, and is drawn out through the central shaft by a fan. The wards will be warmed when required by steam, and also by three majolica stoves near the central ring of columns. The actual centre of the ward will be occupied by a majolica fountain, which will add to what cannot fail to be an attractive and cheerful interior.

The locality furnishes excellent building stone at an almost nominal cost, which is worked at an extremely cheap rate, and this circumstance has enabled Sir Andrew Clarke to give to a design intended to embody the latest accepted principles of hospital construction a more than usually marked architectural character.

REMOVAL OF HOUSE REFUSE AND SEWAGE.

SINCE the notice in the *Builder* of the report of the Royal Commission on the Disposal of the Sewage within the Metropolitan Area, two papers have been read at the Society of Arts on the same subject, but suggesting a diametrically opposite mode of treatment; one by Dr. Hawkesley, the well-known advocate of the dry-earth closet system, proposing the abolition of water as the means of carrying off effete organic matter from towns; the other by Dr. Richardson for the removal of house refuse independent of sewage.

Of course, abstractedly considered, the correctness of Dr. Hawkesley's contention will be generally admitted, that the consignment of sewage matter to the soil is the best of all ways for its disposal, and that, as observed by him, the soil alone possesses the appropriate conditions for its reception and utilisation; but it is when the practical application of the method suggested comes to be considered that there becomes apparent the existence of as great, if not greater, difficulties than are found in the system which Dr. Hawkesley so energetically condemns. To prescribe a single method as universally applicable for all places and in all situations is just as absurd as the claim of Holloway's pills or of the other hundred-and-one quack remedies to be specifics for all the ills to which flesh is heir. There is no doubt that in dry climates, like that of Egypt and in parts of India, the earth system may be carried out with advantage, as has notably been the case in some of the Indian jails, where all the requisite surroundings are specially favourable for the purpose. It may be said, too, that the system has the sanction of antiquity in the sanitary rules which were of old enjoined on the Hebrew nation, being suited to the climate and circumstances amidst which they lived; but it is certainly somewhat straining "the good old belief in a providential adaptation of means to ends," to say that the earth system "presents a grand illustration of it, grand not only for its perfection but for its vastness," because Professor Way happens to have shown the power which various, and especially clayey, soils have of absorbing all such matters as it is desirable and even necessary in the interest of the health of crowded communities to be got rid of as effectively as possible. No one doubts the efficacy of "Earth, the bountiful mother of all vegetable life," as a purifying medium, but it is the practicability of its application, at least as far as experience has hitherto gone, that yet remains to be proved. Great credit is undoubtedly due to the late Rev. Henry Moule for the endeavours, in many cases successful, which he made for the introduction of his system but even he failed to see how the problem of its application to large towns, much less to great cities like London, could be solved. Efficacious though the ingenious apparatus devised by Dr. Hawkesley may be when employed under intelligent supervision, yet it was shown by several gentlemen who took part in the discussion on the two papers, that the system itself had proved very much the reverse where such intelligent supervision was wanting. In addition to the difficulty of practical application, the claim for it of economy was also called in question, while the possibility of its yielding a commercial profit seems equally unlikely.

The removal of house refuse independent of sewage in the manner suggested in Dr. Richardson's paper is a subject doubtless deserving consideration, but it is one which has already received a certain degree of attention in various parts of the metropolis. Similar practical difficulties as to its ultimate disposal, however, present themselves as in the case of sewage when it is proposed to do away with the aid of water carriage. It may seem extraordinary that so valuable a manure as stable refuse should not be able to command a sufficiently remunerative price as to cover the cost of carriage. One of the speakers asserted that the parish of Kensington finds a difficulty for the sale of its stable refuse to market gardeners "owing to the low price of vegetables"; but whatever may be the case with market gardeners, it is quite certain that private individuals in the suburbs cannot procure stable manure except at a price which ought to be sufficiently remunerative for any parish. Its employment in the manner proposed by Dr. Richardson for "growing mushrooms for the million" sounds somewhat ludicrous, and is suggestive rather of the possibility of having too much of a good thing. As the expense of transport seems to be the chief obstacle in obtaining a sale for stable refuse, the railways having refused to have anything to do with it, surely it is worth consideration whether it might not be practicable to construct small canals in various directions so as to reach suburbs to which water transport is not yet available; for by their means a sufficiently low rate of freight would be secured as to admit of manure and refuse realising a price which would, at all events, cover the cost of removal. At the present time, when capitalists find a difficulty in obtaining safe investments, they could scarcely do better than turn their attention to the promotion of a network of suburban water lines which could scarcely fail to afford a fair remunerative return if utilised for carrying off the vast quantity of refuse and manure which requires to be daily removed from the metropolis.

THE HUNGARIAN NATIONAL EXHIBITION.

THE National Exhibition, opened at Pesth on Saturday by the Emperor of Austria, is the most comprehensive enterprise of the kind ever attempted in Hungary. The Exhibition is situated in the City Park, which is approached by the splendid new thoroughfare called the Radial-street, bordered by palatial residences and charming villas. The space covered by the Exhibition grounds is 300,000 square mètres. The Hungarian Parliament granted the sum of 1,000,000 florins in order to carry out the Exhibition in a style worthy of the country. The principal building consists of a vast structure in the form of a parallelogram, erected in the style of the new Italian Renaissance. This great hall of industry is flanked at each of the four corners by elegant pavilions, while the pavilions and entrances in the centre of each of the four front lines are connected with the various annexes. In the centre of the main building rises a large cupola or dome. The work of preparation made enormous strides during the last fortnight, prior to the inauguration, operations being continued through the night by help of the electric light. The Exhibition is divided into thirty-three independent sections or departments. One of the most important divisions is the hall of agriculture, where, in glass bottles and jars, an exhaustive series of specimens of all the agricultural products of Hungary is displayed. A very interesting portion of the Exhibition is that containing a series of rooms exemplifying the interiors of the ordinary houses and domestic arrangements of the country population of the various nationalities under the Hungarian crown, including Magyars, Serbs, Croats, Szeklers, Roumanians, and Germans. In each room are dummy figures, attired in the picturesque costumes of the different races. Another important portion of the Exhibition is that devoted to the different kinds of poultry and domestic animals. The exhibition of sheep, which takes place between the 20th and 30th of this month, and for which no fewer than 2,012 animals have been announced, will be the largest ever held on the Continent.

CLERKS OF WORKS' ASSOCIATION.

AT a largely attended monthly meeting of the members of the above Association, held on the 4th inst., the President (Mr. E. Moore) delivered his address, in which he said,—

We have now entered upon the fourth year of our existence and have shaken off (so to speak) the swaddling clothes of infancy. We have arrived at that period in which it behoves us to take steps forward with courage not unmixed with caution and prudence, or, as our American cousins put it, "First be sure you're right, then go ahead,"—our constant aim and watchword being proficiency and progress. It may, perhaps, not be desirable to dwell too much on the past. It is well, however, that we should bear it in mind so far as it may influence us for good in the future, meanwhile keeping our gaze steadily forward, fixed on the goal of our ambition. Speaking for myself, I confess I look back on the past year with almost unmixed pleasure. There has been a steady increase of members, which we have reason to hope will continue. That in itself is most gratifying. Our *Journal* also has done, and I trust will do, great things towards bringing the Association prominently to the notice of all leading architects and surveyors. Is not this another cause for, I will not say complete satisfaction, but certainly for congratulation, that results have, so far, been favourable? Again, the isolated position formerly occupied by the clerks of works has become a thing of the past. Instead of being scattered and comparatively unknown to each other, we are, by means of this Association, drawn and linked together by ties of fellowship and good feeling, and as years roll on we shall, as we watch its progress, esteem and love this institution increasingly. A certain result of a body of men united in one common calling, whose aims and aspirations are essentially alike, must be social intercourse, mutual professional assistance and benefit individually, and the progress of the Association generally. Having briefly sketched a few of the benefits already conferred upon us by this Association, let us pause to consider one other point in connexion with which it appears to me that our

success has not been quite so gratifying as I could wish. I distinctly remember, when the rules of this Association were being drawn up, that our chief object was so to frame them as to ensure that every member enrolled should be a *bonâ-fide* and thoroughly competent clerk of works. It was ably argued, and, to my mind, conclusively shown, by gentlemen then present, that by adopting this course we should at once start the Association on a sound basis, and, as a result, not fail to secure the co-operation and assistance of architects generally. Our sanguine expectations in this direction have not, up to the present, been so fully realised as I could wish. We certainly have occasionally received good wishes and encouraging remarks and comments from some eminent architects, which have had their due effect in stimulating us to greater exertions. We have also received applications for the services of clerks of works from some few architects, which were promptly and satisfactorily responded to. But these must be not merely more frequent, but, to satisfy me, they must be continuous; the Association must eventually be the one source from which architects seek their practical superintendents of works. Architects and professional men generally must be made to understand that this institution undertakes the fulfilment of their constant and most important and pressing requirements. Their attention must be constantly drawn to the fact that the members of this Association consider the interests of architects to be identical with their own. Seeing that it exists for the purpose of increasing the practical as well as the theoretical knowledge of its members, how could it be otherwise? Why, then, have we not yet fully realised our hopes in this direction? It strikes me that the answer must be that we have perhaps been a little too apathetic upon this matter. Do architects, as a rule, yet realise the fact that this Association consists of the most experienced men of their class, who meet together for the purpose of acquiring additional professional knowledge and intellectual improvement by the reading of technical papers and general discussions thereon, and that the benefits derived therefrom must, of necessity, be shared more or less by them. Let them but become fully acquainted with this fact, and surely it must follow that our connexion with them will soon be largely increased. Any address from this chair would be incomplete if it omitted to mention the debt of gratitude we owe to Mr. John Oldrid Scott for his liberality and many kindnesses bestowed upon us from the first. Particularly must be mentioned his gift of the free use of this office for our business purposes, which, to us, has been truly a gift of very great importance. I consider, also, that his kindness and patronage has in no small way contributed to our attaining our present position, and I am sure I only echo the sentiments of every member of this Association when I say that his name will ever be remembered by us all with lasting esteem and gratitude.

ASSOCIATION OF PUBLIC SANITARY INSPECTORS.

AT the closing meeting for the session of this body, held on Saturday, May 2nd.

Mr. E. Chadwick, C.B., the President, reviewed the sanitary progress of the session, in a closing address. Impending war, he said, unfortunately still delayed the promised sanitary legislation, though the preventible mortality in the metropolis alone exceeded that due to the direst of modern wars. After referring to the greatly diminished mortality in the British and Anglo-Indian armies and the continuance of a high death-rate in the Russian army, the lecturer alluded to the work of the Commission for Housing the Poor, and to the slum visitations recently made in London and Dublin by its President, H.R.H. the Prince of Wales. It was stated that the mortality of slums such as the Prince had visited was more than four times that of certain educational institutions in Dublin which H.R.H. had also visited, where a mixed physical and mental training was given to the children on the half-time principle. Turning to the Metropolitan Sanitary Commission and the question of Thames pollution, which Lord Bramwell, the chairman of the commission of inquiry, declared to be a disgrace to civilisation, Mr. Chadwick strongly condemned the combined system, which with an original estimate of three millions, had actually cost more than six millions sterling, and led to a demand for a further outlay of four millions, in order that sewage which represented the sustentation of more than 200,000 cows might be thrown into the sea. On the separate system, which he advocated, the houses would have been purified by self-cleansing house-drains, and the streets by self-cleansing sewers, with no stagnant putrefaction and emitting no smells, while the river would have been comparatively pure, and the power of production of the land would have been greatly increased. The improvement to public health by the adoption of the separate system would be represented in £. s. d. by a saving of 2s. 4½d. per head per week throughout the metropolis, on the necessary provision for sickness and loss of work. The undertakings of the Local Government Board were characterised by a loose practice, the continuance of which was intolerable, with the increasing pressure of the local rates, now amounting for works, to between 30,000,000*l.* and 40,000,000*l.* a year. These were points that demanded to be considered in discussing the functions of the requisite Minister of Health. Mr. Chadwick suggested, in conclusion, that the officers of the sanitary service might render good service during the coming general election by giving information, to the representatives of each political party, of the preventible reduction of the natural duration of life and the preventible waste of 25,000,000*l.* sterling due to the racking rheumatisms, raging fevers, and painful existences which so largely diminished the working ability of the nation. The sanitary service might be insisted on as a "plank" of every political platform.

A vote of thanks having been accorded to Mr. Chadwick, the chairman of the Council explained that the matters at present before Parliament being of so urgent a character, it was not intended to bring the question of the system of drainage before the House until there was a better prospect of its receiving adequate attention. The necessity for the appointment of a Minister of Education had often been insisted on, but he thought a Minister of Sanitation was no less a necessity.

Mr. Rains (St. George's-in-the-East) pointed out that outbreaks of small-pox had formerly been occasional epidemics in London, but now, although in a milder form, the scourge appeared to have taken up its abode permanently. He should like to know the cause of that change.

In closing the discussion, Mr. Chadwick replied to this question. The origin of small-pox, he said, did not appear to be accurately known, but pure air and personal cleanliness, especially by frequent bathing,—a precautionary measure now prescribed to the hospital nurses by the French physicians,—were the recognised preventives.

THE CHANCERY-LANE SAFE DEPOSIT.

Two or three weeks ago we briefly mentioned the approaching opening of these premises for business, and we have now to record the formal opening, which was celebrated by a dinner on Thursday evening last, in the hall adjoining the premises, the Lord Mayor presiding. This establishment forms part of an enterprise due to the initiative of Mr. Thomas Clarke, who has entirely rebuilt almost the whole of the block of buildings bounded on the west by Chancery-lane, on the south and east by Southampton-buildings, and on the north by the buildings on the south side of Holborn. Here, on ground the property of Lord Radnor, Mr. Clarke has effected quite a transformation, not, however, without obliterating some ancient landmarks. The new buildings have been erected for use as offices and chambers, and their central situation, and the proximity of the New Law Courts, will no doubt go far to ensure the success of Mr. Clarke's enterprise. It is to be regretted, however, that these long stretches of stone façades are of the most mediocre and monotonous description, architecturally speaking.

The Safe Deposit itself is erected in the basement of the block known as "New Stone Buildings," and the entrance to it is from the pathway beneath an archway of polished red granite, on one side of which is what is described as "the largest engraved brass plate in the world," giving some views of the interior arrangements. Wrought-iron gates, and a portcullis or grille, which is lowered from above when required, protects the entrance to the upper external vestibule, at the further end of which is a commodious waiting-room, and in the centre a flight of stairs leading to the lower external vestibule. This portion of the building is decorated in good taste, the ceiling being of enamelled iron, and the walls lined with various coloured marble, with a dado of grand antique. The broad staircase is composed of white marble and mosaic work, with a balustrade on each side of Jura marble. Passing down, the visitor will notice two appropriate mottoes worked in the mosaic, the one being "Safe bind, safe find," and the other a short extract from one of Burke's speeches,—"Early and provident fear is the mother of safety." The construction of these vestibules has been carried out by Messrs. Burke & Co. Beyond this lower external vestibule iron gates again bar the way to what may be called the lobby, on the left of which are the offices of the manager, and on the right the gentlemen's and ladies' writing-rooms, the walls of which are hung with leather papers of Japanese design, while the ceilings are of enamelled iron arranged in panels. And here it may be mentioned that before any one can gain access even to this part of the Safe Deposit he has to run a gauntlet of attendants for the purpose of identification as a renter of a safe, or depositor of valuables.

Passing through the inner iron gates of the lobby the visitor finds himself in the internal or "safe" vestibule, and is confronted with the various strong rooms, occupying three sides of the area, which is paved with tiles in pattern. On the right hand is a strong-room for the deposit of plate by persons going out of town. On the left-hand is the strong-room for cash-boxes, which may be deposited every evening, and taken away again in the morning; but those who take advantage of this convenience can pass their boxes and receive them again through a grille into the sub-manager's room from the lower external vestibule, without the trouble of having to go further. The strong-rooms, four in number, for documents and other valuables, are on the side of the vestibule opposite the lobby, and form the chief and most interesting portion of the Safe Deposit. These rooms, which weigh 500 tons, with doors of 2 tons weight each, are divided into about 5,000 separate iron safes or compartments, ranged tier upon tier, of different sizes, and known by the name of "integers." The locks of these "integers" are, we are informed, so arranged that the key of the renter, as well as the key of the custodian, will be required to be used at the same time before an opening can be effected. For convenience of handling the papers and other valuables deposited, each "integer" is fitted with a box which is readily taken out and replaced, the writing-rooms before mentioned being provided so that renters may consult the contents of their boxes at leisure and in comfort. All the strong-rooms are built on iron columns in the vaults beneath, and are completely isolated from any external walls, so that armed patrols can by night walk round, over, and under them. On each of the doors there is a mechanical clockwork arrangement that only admits of the door being opened at certain hours. For instance, at a particular hour in the evening the doors are locked by the manager, and no one can open them until the hour on the following morning for which the clockwork locks are set; and it is so arranged that on the seventh day one day is passed over, and the doors will not again open till the Monday morning at the given hour; so that if any customer or any one connected with the deposit wished to get into the strong rooms during non-business hours, or on Sundays, it will be impossible to do so, even when the parties have the keys in their possession. The "armour plating" of the strong rooms, consisting of boiler-plates with steel plates between them, is the strongest ever applied to such a purpose. The deposit and its approaches are lighted by electricity (with gas in reserve), arranged by Messrs. Thompson & Ritchie, and everything seems to have been done by Mr. Clarke to consult the convenience and comfort of those who use the establishment. Messrs. Milner were entrusted with the special work of the strong rooms, and, at the inaugural banquet, their representative gave an interesting account of the rise and progress of such establishments, which appear to have had their origin and widest development in the United States.

We understand that architects, engineers, and

others interested in the construction of such depositaries may obtain permission to inspect the premises in Chancery-lane by applying to the proprietor or manager.

BUILDING IN PRIVATE WAYS.

AT Westminster, Messrs. Mowlem & Co., contractors, of Grosvenor-road, Westminster, were summoned by the Metropolitan Board of Works for contravening the provisions of the 45 Vic., c. 14, secs. 7 and 8, by forming or laying out a road, passage, or way, leading out of the King's-road, Chelsea, as a street for foot traffic, in such a manner as not to afford direct communication between two streets; and further, for laying out a footway without the consent of the Board. They were further charged under the Metropolis Management Act with building in a way not open at both ends, and of less width than 20 ft.

Mr. Horace Avory, instructed by Mr. Thomas Burton, appeared for the Board; and Mr. Cripps for the Chelsea Park Dwellings Company, the actual defendants.

The facts, as deposed to by the Assistant Architect to the Board, were admitted. The Chelsea Park Dwellings Company, of which Mrs. Courtney is secretary, has erected a block of buildings for the better accommodation of the industrial classes, abutting on the north side of King's-road, Chelsea. At the back there is an open yard, about 60 ft. wide and 75 ft. long, and this is approached from the main road by an archway, 12 ft. 6 in. wide and 10 ft. high. The passage-way was stated to be 27 ft. long. On the north side of the yard is a block of six dwellings; on the east and west sides are small two-story houses and foundations of outbuildings. The dwellings are built to accommodate several families, and the upper stories are approached by a gallery, after the manner of the Peabody Buildings. The backs open into the courtyard, and there is no other exit from the square except through the passage-way in King's-road.

Mr. Avory, in support of the summons, said the proceedings had been taken by the Board to prevent the formation of a *cul de sac*, the obstruction of public traffic. It was here proposed to close the archway by a gate, and in case of fire there was likely to be great danger; and he referred to the case of the Board *v.* Hampton as being a case in support of his contention.

Mr. D'Eyncourt suggested that Burlington House was an analogous case to the present one.

Mr. Avory thought every case should depend on its own merits. The word "street" had a very wide interpretation. There was nothing limiting it to a public thoroughfare or highway. It included even a mews.

Mr. Cripps contended that they were not laying out a new street. It was originally a block known as Park-terrace Cottages, and now the site was simply utilised for better dwellings. The managers considered that privacy was essential, or otherwise it would become the resort of tramps and vagrants. The place was no more a public street than Barnard's Inn, Furnival's Inn, or Staple Inn, and he further contended that the Metropolitan Acts did not apply.

Mrs. L. Courtney then deposed that she was the secretary of the company, and that she and Mrs. Scott were going to manage the same under Miss Octavia Hill's system. It was their intention to have a gate at the entrance, and the tenants would have keys, and the place would be kept private.

Mr. D'Eyncourt, at the conclusion of the evidence and arguments, reserved judgment.

THE REFORM OF THE INSTITUTE.

SIR,—Having received so many letters from members of the profession, substantially approving the scheme which I have proposed to them, and finding it inconvenient to answer them immediately, I ask my correspondents to be good enough to accept a published acknowledgment. There seems to be a little misunderstanding in one or two cases of my notion of federation. I wish to say that I only advocate federation after the manner of the federation of the States of America; nothing could be further from my thoughts than the destruction of individual action. On Monday night, the President promised that the proposed change in the Institute's Charter should be printed and circulated amongst us, and that we should have three weeks to consider it. That being so, I would advise special attention be given to the manner of electing the Council. Practically, it is now self-elected, and if that is maintained it is useless to look for any reform. A better plan will be the following: three months, say, before the election, candidates should send in their names, those names should be submitted to a committee composed of one half Fellows and one half Associates, and they should eliminate the undesirables.

On Monday night there was a good deal of complaint made of the library regulations, and I think with some justice. A committee had better therefore be appointed to inquire into this when we get our new Charter.

T. E. KNIGHTLEY.

No. 106, *Cannon-street, E.C.*
May 6th, 1885.

"DECORATION OF ST. PAUL'S CATHEDRAL."

SIR,—I have no doubt that many persons besides myself will be glad to learn from the paragraph which appeared in your last issue that it is not intended to *commence* with the dome.

Surely the course recommended by the late W. Burges, A.R.A., when he was acting as architect to the Dean and Chapter in 1873, was the correct one, viz., to select a bay of the nave as the commencement of the work.

1. Because the architecture is fully seen from the pavement upwards, and no part is hidden by stalls, as in the choir.

2. Because, being a public part of the church, the public would have a good opportunity of seeing the decoration, and of becoming accustomed to it; and

3. Because, in the actual execution, experience would be gained which would be useful when the more select portion, such as the choir, would be undertaken.

JOHN S. CHAPPLE.

May 4th, 1885.

COOKING APPARATUS FOR LARGE INSTITUTIONS.

SIR,—Without prejudice I would like to state that I called at the St. Pancras Workhouse to examine and to see the working of a new cooking apparatus described by you on the 18th ult. It was about 11.30 a m., and consequently a good time, as the pans were then in full operation. I noticed a quantity of moist steam escaping when the outer cover and under-lid were lifted, and the water in the jacket surrounding the cooking-vessel just on ebullition, the thermometer outside standing at 93° to 94° C. (202° Fahr.). The time taken in cooking is about fifty per cent. longer than with the usual dry steam-jacket pans. The cost of fuel or economy of working cannot be ascertained or even estimated while working at the same time with other machinery from the same service.

The coolness of the outer case, made so much of, is equally apparent in all other apparatus, when they are felted and lagged. The advisability of leaving the jacket charged with water until the following day, because of its losing but ten degrees of heat (?) is a curious recommendation. With an empty jacket and dry steam an apparatus is in operation at once.

The greatest recommendation of the apparatus appears to be that it is the production of a foreigner, and, therefore, must contain some virtues assumed to be inseparable from other than home products.

ROBT. CRANE.

SIR,—Mr. Becker will not advance his case by misrepresentation. The apparatus in the kitchen of the Lambeth Workhouse referred to in my letter to you is not a Benham's apparatus, as stated by Mr. Becker, nor is it, as he states, "an ordinary steam cooking apparatus." It is, I repeat, identical in principle with that of Mr. Becker. It consists of two copper pans or kettles surrounded by water, which water is heated to the desired temperature by a steam pipe, so that a different degree of heat can be applied to each compartment. There is also the water seal for the edges of the cover as described by you.

I have seen Mr. Becker's apparatus at St. Pancras, and the similarity of principle between that and the one at the Lambeth Workhouse is so remarkable that I am quite content that a competent and impartial commission shall compare the two and decide whether or no the principle of cooking is the same in each case. I also invite members of the architectural profession to see for themselves. The economical results from this principle of cooking, especially in the saving of loss of weight in the meat, are remarkable, and as the Lambeth Guardians have had the benefit of the saving from this apparatus for eleven or twelve years, it is rather late in the day to be told that English architects must needs go abroad in order to learn how to design cooking apparatus.

THOS. W. ALDWINCKLE.

2, *East India Avenue, E.C.*, May 6.

THE ALBERT PALACE.

SIR,—We should be obliged if you would repair an omission in your notice of last week [p. 634] respecting the Albert Exhibition Palace. May we ask you to state that the recent works at the Palace, comprising the completion of the present buildings and certain extensive additions, have been carried out from designs prepared by us and under our superintendence, as architects to the Palace Association?

F. & H. FRANCIS & SONS.

34, *Old Broad-street*.

PROVINCIAL NEWS.

King's Lynn.—A new pulpit has been presented to St. John's Church, in memory of the late Francis Joseph Cresswell, banker, of that town. The pulpit is of Caen stone, octagonal in shape, with clustered shaftings at the angles, of grey and red Devonshire marbles, from which spring the cusped arches, with sculptured heads at the intersections. In the panels are shaftings of Sienna marble with interlacing arches. The work has been well executed by Mr. Ducker, of the Railway Road, from the designs of Mr. W. Adams, architect, King's Lynn.

Ascot.—A jewelled Irish cross in marble has just been erected by Lady Olive Bayley in the churchyard of Ascot, in memory of the late Sir Edward Olive Bayley, K.C.S.I., C.I.E., who is interred there. The work has been executed by Messrs. J. Underwood & Sons, of Duke-street, Grosvenor-square.

Alfreton.—A meeting of the Alfreton Sanitary Parochial Committee was held on the 30th ult. at Swanwick Delves, to consider a report made by Mr. W. H. Radford, A.M. Inst. C.E., Nottingham, as to the disposal of the Swanwick and Lea Brooks sewage. Mr. Radford proposed to lease a suitable quantity of land near the Butterley Reservoir from Mr. Wood, and concentrate the sewage from the two districts at this point, where it would be dealt with by irrigation, the land being specially prepared, lightened, and drained for the reception of the sewage. The committee resolved to recommend the Belper Sanitary Authority to adopt the scheme in its entirety, and proceed to carry it out as soon as possible. The committee also recommended that Mr. Radford be ordered to prepare a scheme for dealing with the sewage of the whole of the remaining portion of the district, including Riddings, Somercotes, Sleight Moor, Birchwood, Smotherfly, and Pye Bridge.

CHURCH-BUILDING NEWS.

Southampton.—The new Church of St. Mary, Southampton, erected as a memorial of the late Bishop Wilberforce, and which was opened in May last year, has just received the addition of a very handsome reredos, which was unveiled at Easter. The reredos, which is 21 ft. 6 in. long and 16 ft. 6 in. high, has been executed by Messrs. Earp, Son, & Hobbs, of London and Manchester, and has cost over 600*l.* It comprises five groups of sculpture, executed in high relief, in pure white alabaster, the same material in red, green, and dove-colour being used for the architectural surroundings. There are three central arches, having crocketed gables, with an ornamental cross in the centre, and finials on the two sides, resting on carved capitals, supported by green and red marble columns, which cluster round enriched buttresses terminating with pinnacles. The central subject is the Ascension, the heads of beholding disciples looking towards a figure some 4 ft. in height, with which the other chief figures in the work correspond, the supporting groups right and left representing respectively the Agony in the Garden and Bearing the Cross. The two end divisions have a horizontal treatment of traceried panelling resting upon double arches, enclosing sculptures of the Annunciation and the Nativity.

Bristol.—The designs of the proposed new Church of St. Francis, Ashton Gate, have been sent in by the architect, Mr. John Bevan. It is proposed to build the church in four sections, viz.:—(1) Chancel and side chapel; (2) nave; (3) aisle, vestry, organ-chamber; (4) tower and spire. Of these sections, No. 4 will be put aside at once; No. 1 will have the first place, and will accommodate forty choristers, and its adjoining chapel, which will hereafter be the daily service chapel, will for the present have to act as an organ-chamber, and it will accommodate forty people, and will be useful for small congregations on week days, Bible classes, &c. The cost of this portion will be 1,200*l.* No. 2, the nave, will accommodate 450 people, at a cost of 2,500*l.* No. 3, the vestries, organ-chamber, and the aisle, for which room will be left, in anticipation of the parish growing larger, and which will accommodate another 190 people, will cost 1,300*l.*; so that when the three sections are completed the church will seat 720 people, and the cost is estimated by Mr. Bevan at (minus the tower and spire) 5,000*l.* Half this amount is promised by the Church Extension Society; 2,500*l.* is, therefore, to be raised by the parishioners.

RECENT PATENTS.

ABSTRACTS OF SPECIFICATIONS.

2,903, Portable Buildings. A. J. Boult (T. Farrot).

The framework of these buildings is composed of wooden bars jointed together by iron shoes of various forms to suit circumstances, covered with tarpaulin or any suitable waterproof material. The pipes may be jointed also in such manner as to form shelves or berths such as are required in barracks.

13,053, Girders for Fireproof Structures. W. H. Lindsay.

An inverted trough is bolted or riveted to the underside of the lower flange of the girder. The slanting sides of the trough form the abutments from which the brick arches of the floor spring. The trough is filled with fireproof composition and is covered with a thin plate. The object is to prevent the lower flange of the girder in case of fire from being subjected to sufficient heat to soften it.

384, Producing Ceramic Plates with Inscriptions in Relief or Intaglio. J. B. and E. Shaw.

Moulds for the production of ceramic plates, with inscriptions, &c., in relief or intaglio, made up of type similar to those used for letterpress-printing. The clay, in the form of a back or in the dry state, is pressed into the mould and fixed in the usual manner. The face of the type may be rolled over with mineral colour if it is desired to produce coloured lettering on the plate. By this process plates for advertising or other purposes, and memorial tablets, may be produced.

625, Lock Furniture. E. S. Norcombe.

The knob is made separately from the neck, and they are brazed together. The spindle is square, and has on one face a series of square grooves; the piece, with shallow square recess in its face, is fixed in the neck, a square slide with spring bearing on one side of the spindle is then put into the recess, and over that a washer. The lower part of the slide in its normal position engages to the groove in the spindle, but by pressing down the pin or its equivalent, the slide is disengaged and the knob may be moved the required distance along the spindle. A rose is made with brads on its back to fasten to the door.

728. Floating Flushing Valve. F. J. Alford.

The discharge-valve is at the bottom of the flushing-tank, and has a float attached to it of such dimensions that when covered by water it retains the valve in either an open or closed position. The valve is opened by a lever and hand-chain, and is guided by a spindle with a nut on the bottom. Any slight modification in balancing the float may be obtained by adding small lead weights. An air-tube leads into the discharge-pipe below the valve, and may be connected to the tank to serve as an overflow-pipe. When the valve is opened it remains open till the water sinks low enough for the valve to be influenced by the current, and is then drawn on to its seat, where it is retained till again lifted by the hand-chain. The float may be in the form of an india-rubber ball, guided by a perforated zinc or wire guard; the ground valve is then dispensed with the ball itself closing on its seat.

1,819. Street and other Lamps. J. Noble.

A method of fixing the panes of glass in street and other lamps. The top panes rest with their lower edges in grooves in the lamp framing, and are secured by thumb-pieces at the top, and the side panes rest in side grooves in the framing, while the bottom panes rest with their outer edges in grooves in the frame, and are secured by a central thumb-piece.

2,247, Asphalte. C. J. Lortzing.

Waste waters from wool-washing, &c., are run into a tank and treated with water containing lime and green vitriol (or other sulphate or sulphuric acid) in proportions determined by the nature of the liquid. The sediment is dried by filtering or otherwise. For asphalte mastic the sediment is ground upon a warm metal surface under pressure, or by a mortar-mill with heated rollers. The mass is melted, limestone or slag, &c., added, and is run into moulds. For compressed asphalte the sediment is powdered and thoroughly mixed with powdered limestone, and then employed as usual. The addition of lime to the sediment may be avoided by increasing the amount of lime added to the waste water.

2,847, Artificial Marbles. A. Guattari.

Gypsum objects, blocks, or powder soaked in hot bitumen; for black marble.

12,175, Engineer's Reversible Level. C. F. and T. Cooke.

The telescope is complete in itself and detachable, and is fitted with two flanges of equal size to allow the telescope to be inserted from either end. The flanges fit into two sockets connected by a tube, and carrying a spirit-level above. The telescope is adjusted at one end by the lock-nuts, the other sockets being slightly rounded off and joined to the base by a screw. The vertical axis is adjusted in the ordinary manner by screws.

APPLICATIONS FOR LETTERS PATENT.

April 22.—4,968, C. Crestman and A. Lloyd, Combination Writing and Work Table.—4,975, C. and F. Smith, Clutch Spindle for Door Furniture.—4,990, A. Barrett, Indicator Door Bolt.—4,993, T. Smith, Lighting Houses by Electricity.—5,004, W. Lake, Preservation of Wood for Paving, &c.

April 23.—5,018, J. Walker, Cupboard Turns.—5,027, J. Smith, Improvements in Stench Traps.—5,041, T. Howie, Appliances for Ventilating Rooms or Buildings.—5,042, J. Howlett and T. Panario, Water Waste Preventing Cisterns.—5,059, H. Haddan, Window Fastener or Stay.—5,060, H. Pearce, Opening and Closing Sashes, Fanlights, Skylights, &c.

April 24.—5,075, O. Evans, Metallic Tang for Wood Wheels.—5,083, J. Barlow, Automatic Grip Vice.—5,086, W. Taylor, Circular Staircases.—5,094, S. Sutcliffe, Tile Hearths and Tile Cheeks for Grates, &c.—5,102, H. Smith, Improved Paint or Pigment,—5,112, J. Bonny, Connecting Fire-grates to the Flues of Chimneys.—5,114, J. Parkinson, Improvements in Parallel Vice.—5,129, R. Strachan and G. Henshaw, Parallel Vices, Clamps, and Chucks.

April 25.—5,137, R. Roberts, Window Fasteners for Large Windows.

April 27.—5,167, E. Kent, Improved Handle combined with Name-plate, for Doors, Drawers, Lockers, &c.—5,175, W. Brown and H. Clayton, Fire-clay Earthenware or Stoneware Baths.—5,188, A. Lake, Illuminating Combination Tiles.—5,189, A. Lake, Improvements in Concrete Lights.—5,193, H. Lake, Improvements in Sash-holders.—5,195, C. Blathwayt, Improved Latch.—5,203, C. Few, Portable Houses.

April 28.—5,207, J Blakeley, Improvements in Mortise Locks.—5,213, T. Fawcett and J. Fawcett, Machinery for Pressing Bricks, Briquettes, Tiles, &c.—5,264, E. Clowes, Improvements in Hinges.—5,278, B. Verity, Improved Warm-air Stove.

April 29.—5,281, R. Warry, Fastenings for Window-sashes.—5,284, R. Harrington, Improvements in Knobs for Doors, Cupboards, &c.—5,293, J. Adams, Semaphore Indicator for Electric Bells.—5,303, J. Etheridge and J. Lloyd, Nail-making Machinery.—5,309, C. Mansted, Apparatus for Preventing the Slamming of Doors.—5,315, R. Perrott, Improvements in Kitchen Ranges.

April 30.—5,346, P. Lovett, Hydraulic Cements.—5,354, E. Robbins, New Decorative Concrete.

PROVISIONAL SPECIFICATIONS ACCEPTED.

3,032, J. Gibbon, Disinfecting Sanitary Lamp for Ventilating Purposes.—3,443, J. Lowe, Improvements in Planes.—3,482, T. Hawkins, Improved Method of Glazing with or without Putty.—3,536, P. Nevill, Instrument for Measuring Angles.—3,910, T. Wood, Boilers for Kitchen Ranges.—4,213, H. Mills, Improved Shield Clamp.—4,275, T. Oakley, Domestic Firegrates.—4,277, J. Pearson, Improvements in Kitcheners.—4,295, H. Lake, Door Fastenings, &c.—4,397, J. Lamb, Improvements in Ventilators.—4,413, W. Pope, Securing Sliding Window Sashes and Shutters.—4,643, G. Ellis, Portable Dry-Earth or Carbon Closet.—4,749, E. Palmer, Self-Acting Flushing Apparatus.—7,946, H. Talbot, Ventilating Flue Bricks.—16,894, J. Gillespie, Improvements in Garden Walls, &c., and Bricks for same.—2,648, W. Hayhurst, Cramps for Carpenters, Joiners, &c.—3,749, R. Pyne, Safety Door Fastener for Internal Use.—3,750, C. Hardiman, Improvements in Chimney-pots or Tallboys for Preventing Smoke or Down-draughts.—4,105, W. Neilson, Combined Latch and Bolt Locks.—4,170, F. Robinson, a Collapsing Wardrobe.—4,289, D. Waldie, Improvements in Mortise and Tenon Work.—4,331, W. Thompson, Window Cleaning Chairs, applicable also to Platforms, for the use of Painters, &c.—4,419, W. Stein, Improvements in Bakers' Ovens.—4,646, E. Showell, Sash Fastenings.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to opposition for two months.

7,499, W. Codner, Covers or Hack-caps for Covering Bricks in the Field.—9,357, S. Williams, Improvements in Kilns.—9,887, H. Smith, Coating or Surfacing Bricks and Tiles.—10,943, L. Ascagne, Improvements in the Manufacture of Mosaic Work.—333, W. Heelis, Combined Wardrobe, Cupboard, or Bookcase.—2,933, W. Hayward and W. Eckstein, Cellar Covers and Coal Plates.—3,262, T. Messenger, Interlocking Coupling Joint for Gas, Water, or Steam Pipes.—3,852, P. Justice, Manufacture of Staples.—3,958, H. Steven and W. More, Improvements in Sewer-traps.—9,736, R. Rapier, Improvements in Cranes.—9,798, E. Wethered, Improvements in Locks and Latches.—9,886, T. Helliwell, Improved Method of Glazing.—4,050, W. Willett and H. Ball, Improvements in Rock Drills.

Salvation Army "Barracks."—Barrack buildings are in progress at Manchester, Mr. Holt, builder; Leamington, Mr. M. Gascoyne, builder; and Plymouth, Mr. T. Foote, builder. The total cost of the three buildings will be about 7,000*l*. "Barracks" are also about to be erected at Darlington, Runcorn, Wisbech, and Tunbridge, under the supervision of the architect's chief assistant, Mr. J. Williams Dunford. The whole of the works are being carried out from plans and quantities supplied by and under the direction of Mr. E. J. Sherwood, architect, 101, Queen Victoria-street.

The Student's Column.

DESCRIPTIVE GEOMETRY.—XIV.

SOLID ANGLES.

THE simplest of solid angles, such as the angle of a stone or a box, has at least three faces divided by three arrises, and containing three inner angles between the contiguous faces. To avoid Greek names we shall call such angles *triangular solid angles*. As in masonry, we shall constantly have to do with such angles, it is important that when we know some of their component parts we should be able to deduce the others.

Given the three faces of a triangular solid angle find the inner angles. (We mean by the term "inner angle," the angle by which we judge of the sharpness or the bluntness of an arris.)

Let $a\,o\,b$, $b\,o\,c$, $c\,o\,d$ be the faces of the solid angle; we cut them by a circle with centre o, so that $a\,o$, $b\,o$, $c\,o$, $d\,o$ be equal. If we rotate the face $a\,o\,b$ round $b\,o$ and $c\,o\,d$ round $c\,o$ the points a and d will meet in a point m, of which m^h is the horizontal projection; taking $a\,m^h$ for L T we draw on this elevation the circle described by the point a on which will be m^v, and thereby know exactly the position of the third arris of the solid angle: $m^h\,g\,m^v$ is one of the inner angles; $m^h\,e\,m^{v1}$ is another inner angle; for the third angle we carry out the same operation again after placing on the plan the face $c\,o\,d$ in juxtaposition with the face $a\,o\,b$. We can see also by this figure that a triangular solid angle must have its largest face smaller than the sum of the two others, and that the sum of the three faces must be less than four right angles. The first is obvious; for if the face that is the angle $b\,o\,c$ were larger than $a\,o\,b + c\,o\,d$, the sides $a\,o$ and $d\,o$ could never meet while rotating round the hinges $b\,o$ and $c\,o$; on the other hand, if the sum of the three faces were larger than four right angles, then the faces $a\,o\,b$ and $c\,o\,d$ would partly cover one another when laid down on the plan, and the sides $a\,o$ and $d\,o$, instead of meeting when rotating round the hinges $b\,o$ and $c\,o$ will, on the contrary, move away from one another. The student will perceive this fact more clearly by making a small model of our diagram in drawing paper; to produce three sides larger than four right angles he will have to glue a piece on to one of the sides. (See fig. 71.)

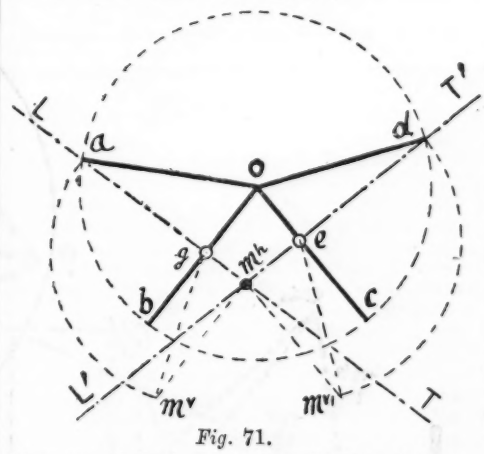

Fig. 71.

Given one of the inner angles with the adjoining faces, find the other parts of the solid angle.

Let $a\,o\,b$ and $b\,o\,c$ be the adjoining faces of an inner angle $a\,g\,\beta$, we see by fig. 72 how we

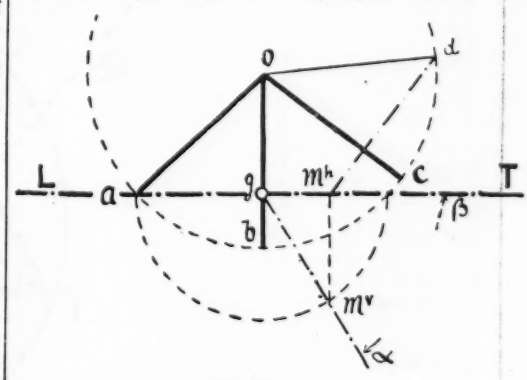

Fig. 72.

deduct m^h, from which a perpendicular to $c\,o$ will give us the point d of the face $c\,o\,d$. (See fig. 72.)

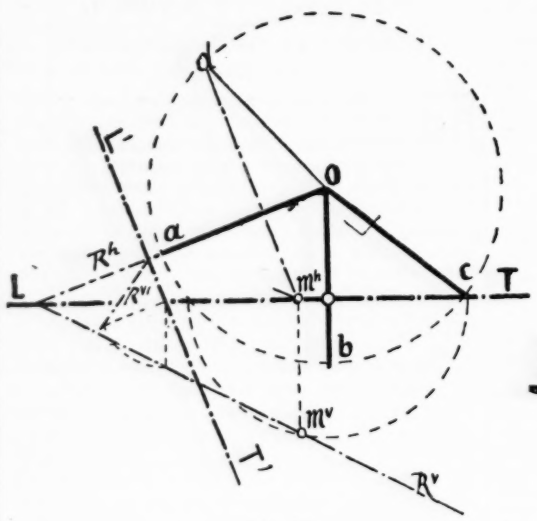

Fig. 73.

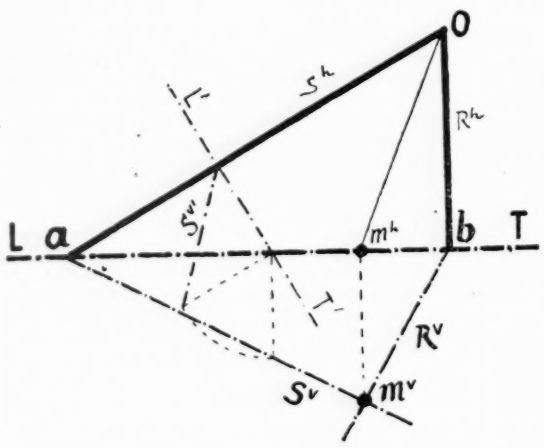

Fig. 74.

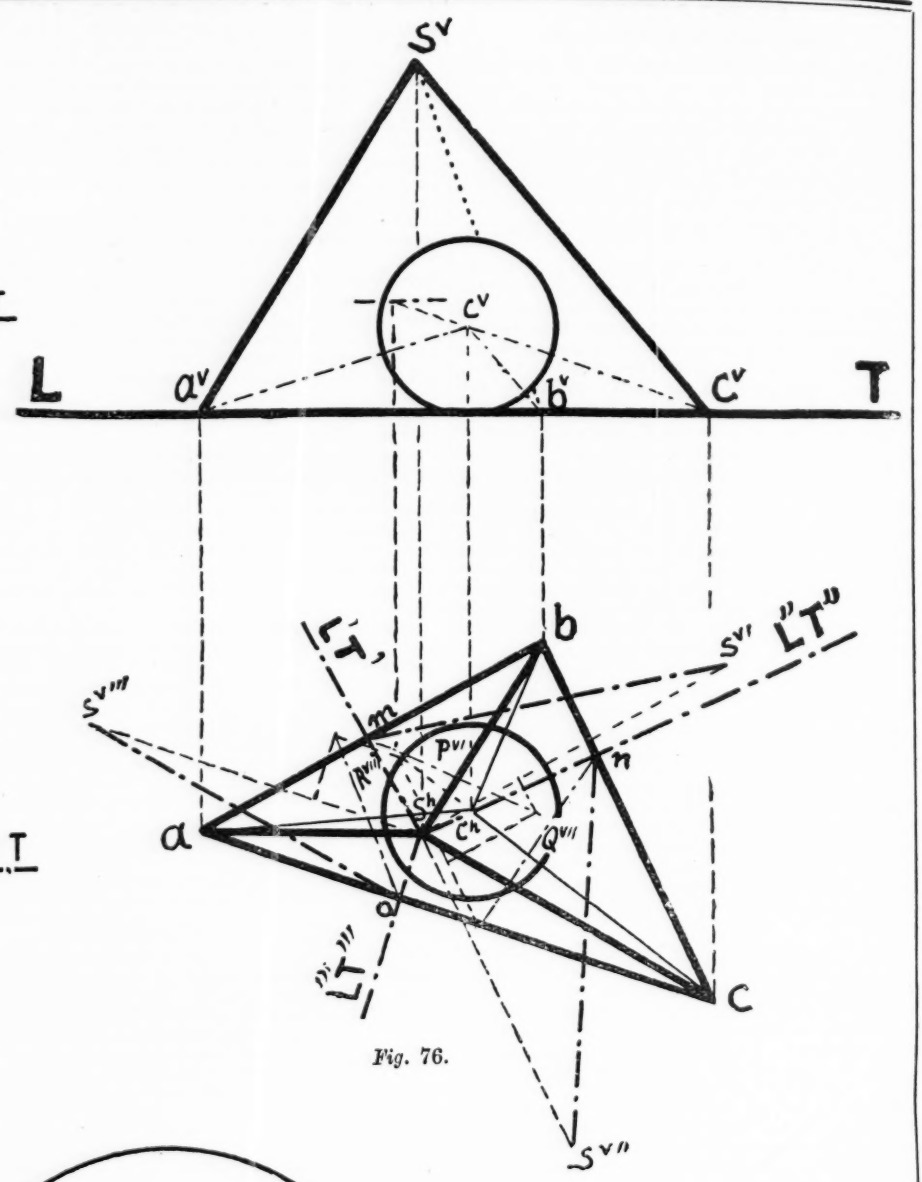

Fig. 76.

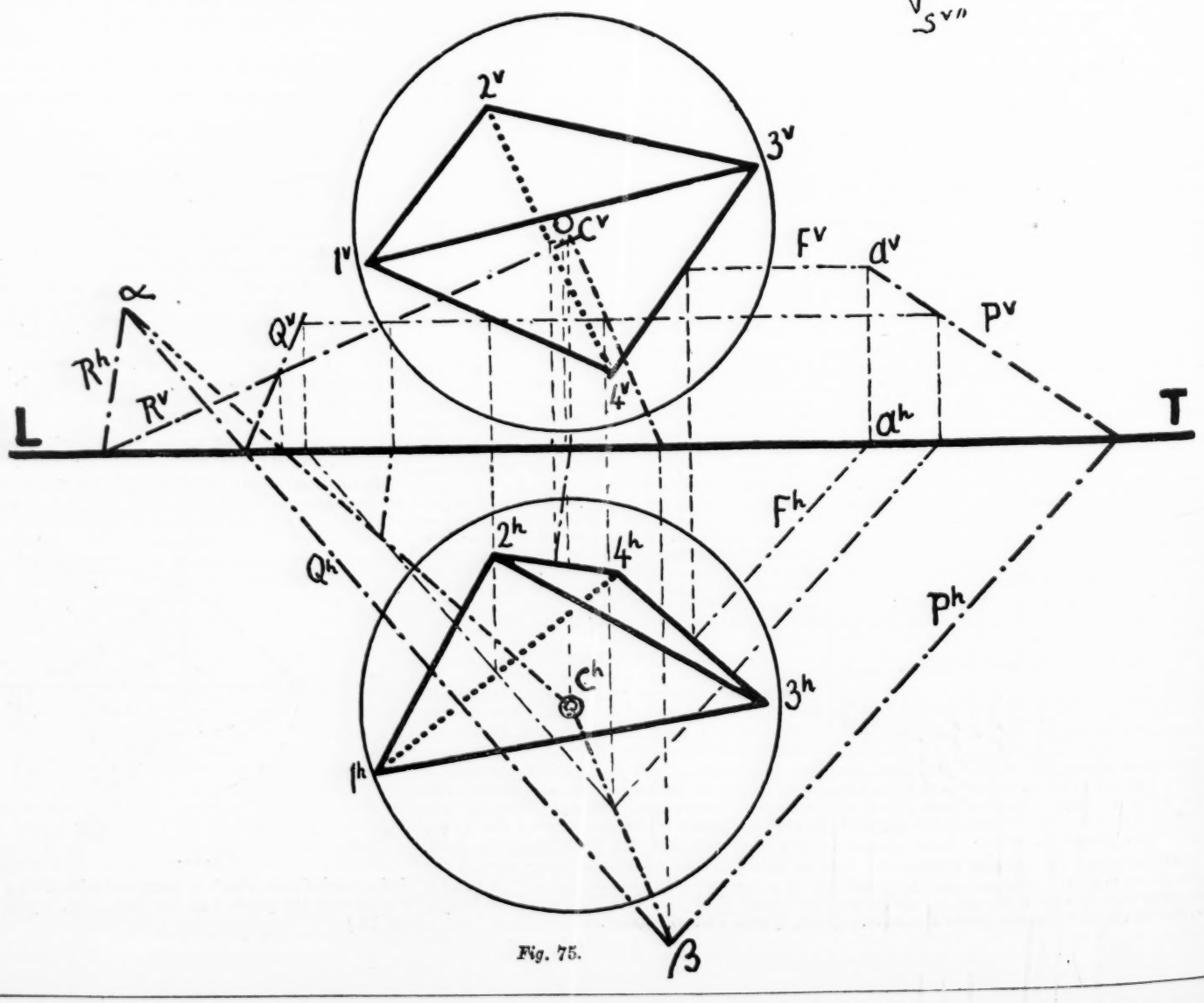

Fig. 75.

Given two faces and the inner angle opposite, find the other parts of the solid angle.

Let $a\,o\,b$ and $b\,o\,c$ be the given faces, and the inner angle given be that of the arris $a\,o$. Turning the face $b\,o\,c$ round the hinge $b\,o$, the point c will move in a vertical plane which we take as our elevation plane, and we shall have on this elevation the circle described by the point c. If we call R the plane of the third face $a\,o\,d$, the intersection of its vertical trace R^v with the circle described by the point c will be the point m belonging to the arris $d\,o$ required; from m^h a perpendicular to $a\,o$ will give us the point d of the face $a\,o\,d$, and then all the parts of the solid angle can be found as required. To find the vertical trace R^v we first make an auxiliary elevation on L^1, T^1 perpendicular to $a\,o$, and the angle of the arris $a\,o$ will give us the vertical trace R^{v1}, we deduct therefrom R^v in the ordinary way. (See fig. 73.)

Given a face and two angles, find the other parts of the solid angle.

For the students acquainted with solid geometry, we shall say that in the complementary solid angle the faces are complements of the inner angles of the given solid angle. We solve the complementary solid angle by one of the methods above and deduct therefrom the original solid angle. But we can solve direct the following problem.

Given the face $a\,o\,b$ and the adjacent inner angles, find the other parts of the solid angle.

If through the point a we take our elevation plane perpendicular to $b\,o$ we have only to find thereon the traces of the planes of the adjoining faces. We shall call these planes R and S. The angle of arris $b\,o$ allows us to draw at once the trace R^v. As to the trace of S, we get it first in S^{v1} on an auxiliary elevation plane on $L^1\,T^1$ perpendicular to $a\,o$, and deduct therefrom as before trace S^v on the first elevation plane. The intersection of R^v and S^v gives us m, a point of the arris, and we can then find all the other parts of the solid angle as before. (See fig. 74.)

Circumscribe a sphere to a triangular pyramid.

Such a sphere will touch the four angles of the pyramid. The centre of the sphere being at an equal distance from each angle, it will therefore be on the intersection of three planes, P, Q, R, respectively, perpendicular to the centres of three arrises of the pyramid. Observe that to find the traces of the plane P we have first drawn a horizontal line, F, of that plane through the centre of arris 4, 3. The elevation of F is horizontal, its plan is perpendicular to $4^h\,3^h$, the plan of the arris. P^v passes through a^v, vertical trace of the line F, and is perpendicular to $4^v\,3^v$, elevation of the arris; as for P^h, it is parallel to F^h. By the same method we find the traces of the plane Q perpendicular to arris 1, 4, and of the plane R perpendicular to arris 2, 4. The intersection of the plans R and Q is the line $a\,c$, the intersection of the planes P and Q is the line $\beta\,c$, therefore c is the point where the three planes meet, which is the centre of the sphere required. We have only to find the real length of one of the radii, such as $c\,1$, and we can draw the sphere. (See fig. 75.)

Inscribe a sphere in a triangular pyramid.

This would be the problem we should have to solve if we were asked to carve out of a piece of stone of that shape the largest sphere possible.

The centre of the sphere must be at an equal distance from the four faces of the pyramid, and will therefore be found by the intersection of the planes which bisect the inner angles of the pyramid on the arrises ab, bc, ca. To get these inner angles we cut them by vertical elevation planes perpendicular to the arrises such as $L^1\,T^1$, $L^{11}\,T^{11}$, and $L^{111}\,T^{111}$; as these three planes all contain the apex S, we can easily draw on each the respective vertical traces of the faces of the pyramid such as mS^{v1}, nS^{v11}, and OS^{v111}, which give us the inner angles of the arrises ab, bc, ca. We then can draw on each elevation the traces of the planes which bisect the inner angles such as P^{v1}, Q^{v11}, R^{v111}; the horizontal traces of these planes are, of course, the arrises themselves of the pyramid. We must now find the intersections of the planes P and Q, also of planes P and R, the vertical traces of which belong to different elevation planes, a problem we have already solved in the *Builder*, fig. 21. Where the two intersections meet we have C^h, the plan of C, the centre of the sphere, and can deduct from one of the auxiliary elevations its height, by which we get C^v. (See fig. 76.)

RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

APRIL 23.

By C. C. & T. MOORE.

Commercial-road, E. — 49, 51, 56, 58, and 60, Lucas-street, 12 years, ground-rent, 35*l.*	£200
Bow—121 and 123, Fairfoot-road, 77 years, ground-rent 8*l.*	505
29, St. Stephen's road, 68 years, ground-rent, 4*l.* 4s.	330
Romford—High-street, two houses, 20 years, ground-rent 6*l.*	175
Mile-end—46, New-road, 21 years, ground-rent 5*l.* 10s.	425
Bethnal-green—39 and 40, Pleasant-place, freehold	485
68, Buckhurst-street, copyhold	290

APRIL 27.

By WAGSTAFF & WARMAN.

Stoke Newington—26, Springdale-road, 82 years, ground-rent 7*l.* 7s.	415
Canonbury—1, Alwyne-villas, 61 years, ground-rent 3*l.*	510
Holloway-road, Crane-grove, Wilton-villa, 66 years, ground-rent 4*l.*	365

APRIL 28.

By C. & H. WHITE.

Bermondsey, Fenner-road—"The Prince Alfred" public-house, freehold	1,750
1A, Fenner-road, freehold	340
Drummond-street, improved ground-rent, 12*l.*, 49 years	230
Drummond-street, improved ground-rent, 8*l.*, 57 years	150

By DEBENHAM, TEWSON, FARMER, & BRIDGEWATER.

Sutton, The Green—The freehold villa called "The Elms"	600

By CHINNOCK, GALSWORTHY, & Co.

Stoke Poges, near Slough—The Appleton Park lands, 71a. 3r. 5p., freehold	6,000
Two enclosures on the "Duffield Estate," 26a. 0r. 20p., freehold	3,950

By HARDS, VAUGHAN, & JENKINSON.

Highbury—222, Blackstock-road, freehold	1,210
Greenwich—171, 173, and 175, Trafalgar-road, 52 years, ground-rent 4*l.* 10s.	1,140
Camberwell—90 to 98 even, Denmark-street, freehold	2,040
Peckham—2A, Camden-terrace, freehold	450

By W. H. MOORE.

Chalk Farm—21 and 22, Ferdinand-place, 57 years, ground-rent 10*l.*	270
Camden-town—14, Bayham-street; 40 and 41, Bayham-place; and 8 and 9, Gloucester-street, 5 years, ground-rent 16*l.*	275
Euston-square—113, Drummond-street, 35 years, ground-rent 20*l.*	255
26, Wellesley street, 22 years, ground-rent 8*l.* 8s.	140

By C. P. WHITELEY.

Bethnal-green—86 and 88, Cyprus-road, 17 years, ground-rent 4*l.*	325

By J. G. & A. PRAVOST.

Mile-end—5, St. Peter's-road, 45 years, ground-rent 3*l.* 8s.	365
Poplar—1, Carmen-street, freehold	240
Bromley-by-Bow—89 and 91, High-street, copyhold	480
"The Bow Foundry," copyhold	600
93, High-street, "Linden Lodge," copyhold	340
17, Bow-road, 32 years, ground-rent 15*l.* 10s.	320

By THURGOOD & MARTIN.

Finsbury Park—2A, Plimsoll-road, 84 years, no ground-rent	300
Holloway—65, Shadwell-road, 69 years, ground-rent 5*l.*	260
48, Hanley-road West, 69 years, ground-rent 6*l.*	265
17, Grove-road, 80 years, ground-rent 7*l.*	370

APRIL 29.

By TEMPLE & MOORE.

Newington-green—25 and 27, Howard-street, freehold	720

By J. WOOD.

Westminster—28, Vincent-street, 24 years, ground-rent 6*l.*	170
8, Kensington-place, 34 years, no ground-rent	295

By R. TIDEY & SON.

Kingsland—68, Buckingham-road, 40 years, ground-rent 4*l.* 10s.	360

By H. OUGHTON & SON.

Chelsea—50, Slaidburn-street, 69 years, ground-rent 4*l.* 10s.	220
11, Halsey-street, freehold	1,150

By GODWIN & BASLEY.

Eaton-square—33, Elizabeth-street, 38 years, no ground-rent	1,300
40, Elizabeth-street, 38 years, no ground-rent	1,200
42, Elizabeth-street, 38 years, ground-rent 2*l.*	1,760

APRIL 30.

By DALE & SON.

Mile-end—76, Clark-street; and 55, Dempsey-street, 16 years, ground-rent 4*l.*	265

By A. WALTON.

Hackney, Sutton-place—A plot of freehold land	250
Notting-hill—1 to 10, Roseland-place, 78 years, ground-rent 50*l.*	1,200
City—A moiety of 192, Whitecross-street, 25 years, ground-rent 29*l.*	100
A moiety of 2, Red Lion Market, 28 years, ground-rent 6*l.*	85

By E. STIMSON.

Islington—465, Liverpool-road, freehold	550
Battersea—7, Battersea Park-road, freehold	630

By NEWSON & HARDING.

Fulham—111, Eastcourt-road, 69 years, ground-rent 3*l.*	320
81 and 83, Rylston-road, 66 years, ground-rent 2*l.*	190
Finsbury—134, Queen's-road, 88 years, ground-rent 18*l.*	950
Stoke Newington—7, Lordship-villas, 77 years, ground-rent 2*l.*	395
105 and 107, Farleigh-road, 79 years, ground-rent 12*l.* 12s.	825
Dalston—15, 17, and 19, Shrubland-road, 57 years, ground-rent 15*l.* 7s.	£1,075

MAY 1.

By CHARLES WARR.

Highbury—1, Benwell-road, freehold	700
2, Avenell-road, 80 years, ground-rent 2*l.* 13s.	200
4, Avenell-road, 80 years, ground-rent 2*l.* 13s.	190

By A. A. HOLLINGSWORTH.

Clerkenwell—5, and 9 to 12, John-street; and a ground-rent of 10*l.*; 30 years, ground-rent 36*l.*; also, Kingsland—46 to 50 even, Appleby-street, 19 years, ground-rent 12*l.*	1,685

By HORNE, SON, & EVERSFIELD.

St. John's Wood—Ground-rents of 173*l.* 8s., reversion in 58 years	5,550
Marylebone-road—No. 302, freehold	1,150
Haverstock-hill—39, Adelaide-road; and a ground-rent of 6*l.* 10s., term 59 years, ground-rent 7*l.*	680
St. John's Wood-road—No. 35, term 8 years, no ground-rent	470
Marylebone—9, 10, and 11, Kelso-place, 36 years, no ground-rent	580
Westminster—13 to 15, Kensington-place; and 33 and 34, Vincent-street, 24 years, ground-rent 20*l.*	920
18 to 24 even, Kensington-place, 24 years, ground-rent 18*l.* 8s.	685

By BLISS & SONS.

Hackney—2 and 4, Clarence-road, 65 years, ground-rent 50*l.*	600

MEETINGS.

MONDAY, MAY 11.

University College.—Mr. Barclay V. Head on "Greek Numismatics." 4 p.m.

Society of Antiquaries of Scotland, Edinburgh. — (1) Mr. J. Romilly Allen on "Celtic Ornament." (2). Mr. J. Russell Walker on "Recumbent Monuments in Scotland" (and three other communications). 3 p.m.

TUESDAY, MAY 12.

Anthropological Institute.—Exhibition of a Collection of Worked Jade from New Zealand. 8 p.m.

Institution of Civil Engineers.—Discussion on Mr. A. M. Thompson's paper on "The Signalling of the London and North-Western Railway." 8 p.m.

WEDNESDAY, MAY 13.

Artists' General Benevolent Institution.—Anniversary Dinner, Prince's Hall, Piccadilly. 6 p.m.

Liverpool Architectural and Engineering Societies.—Special Joint Meeting, to hear and discuss a paper by Mr. William Goldstraw, entitled "Science and Art in their Connexion with Buildings and other Structures." 7.30 p.m.

Manchester Society of Architects.—Council Meeting. 3 p.m.

THURSDAY, MAY 14.

Society of Arts (Applied Chemistry and Physics Section.)—Dr. C. J. Thresh on "The Utilisation of a Natural Chalybeate Water for the Purification of Sewage." 8 p.m.

Society of Telegraph-Engineers and Electricians.—8 p.m.

SATURDAY, MAY 16.

Association of Municipal and Sanitary Engineers and Surveyors.—Midland Counties District Meeting at Nottingham. 11 a.m.

Edinburgh Architectural Association—Visit to Aberdour.

Miscellanea.

Amalgamated Society of Engineers.—The effects of the existing depression of trade are clearly shown in the thirty-fourth annual report of the Amalgamated Society of Engineers, just issued. The monthly returns of members out of work increased from 1,893 in January, 1884, to 4,090 in December last. This was chiefly attributable to the collapse in the ship-building trade, which made a difference to the labour market of 7,500,000*l.* Other countries, however, are in a worse condition than our own, the depression having been universal. The report states that the total number of branches is now 430, as compared with 424 in 1883. The total membership at the close of 1884 was 50,681, being an increase of only 263 on the previous year. The income for last year was the largest in the history of the society, and reached the large total of 157,484*l.*, showing an increase over the previous year of 22,835*l.* This was due to a special levy during the year, and it is pointed out that, even with its increased income, the society has been unable to keep up with its expenditure, which amounted to 172,841*l.*, or 48,117*l.* more than was spent in the previous year. A considerable proportion of this outlay had been expended in out-of-work support, which had absorbed 59,056*l.* Sick benefit absorbed 27,977*l.*, and superannuation 30,519*l.*, while special strike expenditure had been very heavy. The total expenditure during the year amounted to 15,537*l.* more than was obtained, but deducting this from the previous balance of 178,125*l.*, the society had still left an accumulated fund of 162,768*l.*—*Times.*

Bust of Coleridge in Westminster Abbey. A portrait bust of Samuel Taylor Coleridge was unveiled in Westminster Abbey on Thursday afternoon by Mr. J. Russell Lowell, the American Minister. The bust is from the studio of Mr. Hamo Thornycroft.

Fire-Resisting Properties of Cyanite.—Some interesting tests of the fire-resisting properties of cyanite were afforded by the manufacturers of the material (the Patent Liquid Fireproof Cyanite Company, Limited) on Wednesday last, on the site of the abandoned Opera-house, Victoria Emlankment. The material (of which mention has been made in our columns on previous occasions) is a liquid solution, of which silica is the basis, and it is applied with a brush direct to the surface of the woodwork, serving either as a priming to be afterwards covered with paint, or as a stain in lieu of the ordinary pale oak stain, which it much resembles in colour when applied to deal or other white woods, though it is also made colourless. It is claimed by the manufacturers that this solution sinks into the pores of the wood, and renders the timber for a considerable period proof against the attacks of fire. That the application of the solution has the effect of retarding the attacks of the flames for a long time was conclusively shown by the tests of Wednesday last. The tests were four in number. For the first one, a small flight of stairs, constructed of 1½ in. common white pine, was primed with two coats of cyanite, and underneath it a large heap of chips and shavings, plentifully besprinkled with benzoline, was ignited and burned for half an hour before the soffits of the treads and the backs of the risers were perceptibly charred. After the lapse of another half-hour, during which the under part of the woodwork of the stairs continued to smoulder, the stairs were proved to be strong enough to bear the weight of a man. Other tests, with packing-cases, were equally successful. The cases (three in number) were each about 2 ft. 6 in. deep, 3 ft. 6 in. long, and 2 ft. 6 in. broad. They were each stood up on end, and a large fire of shavings and chips sprinkled with benzoline was lighted in each. One of the cases was not coated with cyanite, and it speedily collapsed and became a mass of charred embers. The two other cases retained their form and position after the lapse of an hour, and it was only after the first half-hour's exposure to the flames that the wood became perceptibly charred and began to burn to any appreciable extent. It is asserted that this solution is permanent in effect and does not injuriously affect the woodwork to which it may be applied. If this be so, the solution has a wide field of usefulness open to it.

The Fatal Gas Explosion at Rotherhithe.—Mr. Langham resumed on Wednesday the inquiry at Guy's Hospital concerning the death of Rebecca Ewington, late of 9, Eugenie-road, Rotherhithe, who died from the result of injuries sustained by the recent gas explosion in Rotherhithe. Workmen employed by the gas company stated that the gas-pipe was laid upon perfectly solid ground. The builders afterwards excavated under the main for gravel, about 12 ft. of earth being taken from underneath. During the work the main was supported by wooden props, and there were a large number of bricks stacked in the road. This would affect the gas-pipe very seriously. The jury returned the following verdict:—"In the opinion of the jury the deceased's death was due to the explosion of gas. The cause of such explosion is traceable to the excavations made under the main, but by whom the jury have no evidence to show. They are further of opinion that in September last, when the gasman was drawn out of the hole insensible, there should have been more care taken to have seen that the main was perfectly secure."

Association of Municipal and Sanitary Engineers and Surveyors. — A Midland Counties District Meeting is to be held at Nottingham, on Saturday next, May 16, 1885. The members will assemble in the Council Chamber at 11 a.m., to elect district secretary. The following papers to be read:—"Result and Advantages of the Meter System in Domestic Consumption," by Mr. George Winship, borough surveyor, Abingdon; "Five Years' Municipal Work in Nottingham," by Mr. A. Brown, borough engineer, Nottingham. In the afternoon visits will be made to Sir John Oldknow's lace manufactory; the Work and Ways Depôts; stables, &c.: the Health Depôt, —destructor and pail closet system; the London-road Paving Works; Trent Bridge; and Nottingham Castle Museum; and if time allow, other objects of interest. The members will then return to the Council Chamber and discuss the papers, &c. A pretty full programme.

A Monster Weighing-Machine.—Messrs. Henry Pooley & Son, Albion Works, M'Alpine-street, Glasgow, and Liverpool, have just turned out a weighing-machine of exceptionally great capacity. It is on the suspension principle, and has been specially designed for weighing marine boilers and heavy castings for Messrs. J. & G. Thomson, shipbuilders and engineers, Clydebank, Glasgow. The knife edges and bearings are all of extra fine cast steel, specially made for this purpose, and the other parts are of best steel and Lowmoor iron. The breaking strain is calculated at 1,400 tons, and the machine has been tested at Lloyd's up to 120 tons. After testing, the machine was taken to pieces, and all the knife edges and bearings were found quite sharp and uninjured. The machine is suspended from the shears by a massive band of solid steel, weighing 15¼ cwt., and the lower link and cross-head, from which the articles to be weighed are suspended, weigh 13 cwt. The levers and other working parts are all of the finest steel, and are enclosed in a waterproof box of great strength. The steelyard or index lever is also enclosed in a waterproof box, fitted with folding doors, and is graduated from pounds up to 100 tons, the indications being obtained by means of sliding poises, without loose weights. This part of the machine is nickel-plated, to prevent rust. Messrs. Pooley & Son, who were the pioneers in the introduction of the platform weighing-machines in this country, have recently made several special weighing-machines for home and abroad, including a weighbridge with a table 23 ft. square, another with a platform 40 ft. long, and an order they have in hand at present for a leading Scotch Company, is for a weighbridge of 80 tons capacity, fitted with eight separate weighing-tables.—*Glasgow News*, Sept. 26, 1884.

Cable Tramways.—At a meeting of the Society of Engineers, held on Monday evening, May 4, at the Town-hall, Caxton-street, Westminster, Mr. Charles Gandon, president, in the chair, a paper was read by Mr. W. Newby Colam on "Cable Tramways." The author, on introducing the subject of his paper, alluded to the number of years that vehicles had been propelled by wire cable, and explained that the novelty in the cable system of tramways was the invention which had enabled a cable to be used as a transmitter of power to tram-cars in such a manner that they can be drawn through crowded streets without interfering with the ordinary traffic. The author then gave an account of the history of the invention and its application to the first cable tramway, which was constructed up Clay-street-hill, San Francisco, in 1873. The great mechanical and financial success of this first line induced other tramway companies, at that time using various motors, to convert their lines to the cable, with the result that there are now over forty miles working most successfully in that city. The lines in San Francisco are more or less very steep, in places being as severe as 1 in 5; but the introduction of the system in 1882 into Chicago, which city is practically on a dead level, has demonstrated its great advantages under such circumstances, and in climates subject to extreme variations of temperature and heavy falls of snow. Over twenty miles of cable track is now in operation in that city, and, during the very severe weather of last winter, the cables were the only uninterrupted means of locomotion. The remainder of the paper was devoted to describing the construction of the Highgate Cable Tramway, to which the author is engineer.

Messrs. Steven Bros. & Co., architectural, sanitary, and general ironfounders, of 35 and 36, Upper Thames-street, E.C., have, we are informed, secured the lease of new and extensive premises at No. 4, Upper Thames-street, opposite the *Times* Office, Queen Victoria-street, and, after they complete their extensive alterations, they will be able to have on show what they believe will be the largest stock in London of kitchen ranges, marble chimney-pieces, marble kerbs, tiles, and tile hearths, slow-combustion stoves, stable fittings, hot-water apparatus, bakers' oven work, ornamental gates, railings, verandahs, spiral and straight staircases, baths, and fittings, &c., &c. Owing to the large and increasing demand for their manufactures, Messrs. Steven Bros. & Co. have found it absolutely necessary to remove their stock to warehouses where it may be seen to better advantage than has been the case, owing to want of space, at their present address.

The "Great Western Hall," Paddington. The "Great Western Hall," which has just been erected for the Salvation Army (on the site lately occupied by the Union Saw Mills, situate in Burne-street and Lisson-street, Edgware-road, W., and containing a superficial area of 14,500 ft.), was opened on the 2nd inst. The buildings consist of a large main hall, with gallery running round the entire length, basement, retirement-rooms for male and female speakers, band-room, treasurer and secretary's room, officers' and caretaker's quarters, book and uniform stores, ticket-office, boiler-house, lavatories, &c. The public approach to the main hall is from Lisson-street, leading into a vestibule, which is well lighted from the ceiling, by means of marginal lights. From here access can be gained to the ground-floor, which is constructed in the amphitheatre style; to the galleries, the corridors of which are constructed independently and of fireproof material in accordance with the Metropolitan Acts relating thereto; and to the basement, which has been specially designed for catering purposes on special fête days, but which will be used on other occasions as a week-night hall. The private entrances are in Burne-street, immediately adjoining the Edgware-road Metropolitan Railway Station. In the main hall and galleries seating accommodation has been provided for 3,200 person, in the basement for 1,000, and the cost has been about 5,000*l*. The whole of the work has been carried out by Mr. G. Brick, builder and contractor, of Hendon, from designs and under the superintendence of Mr. E. J. Sherwood, architect and surveyor, 101, Queen Victoria-street.

Coal Mining in China.—It is stated that the Chinese Government, casting aside national prejudice, are on the point of working the coal mines of China in a more systematic manner than has hitherto been done, calling in the aid of European miners. They recently applied to the Société Cockerill, Belgium, for a contingent of experienced miners to superintend the extensive collieries which they propose to open up in certain of the rich deposits already prospected. Very liberal salaries were offered, and it is said that the appointments were eagerly accepted. Thirty miners were engaged, and they are likely to be followed by another thirty, who will proceed to China on the chance of obtaining an engagement on their arrival. As the government will probably be glad to avail themselves of European aid, there is hardly a doubt that the latter will speedily obtain the appointments they desire. It is also probable that the Chinese will obtain the necessary plant to work their mines properly. But they will soon learn the proper methods of working, and in opening up other mines they will adopt the system they have learned, dispensing in the future with the aid of Europeans. The Chinese, like the Japanese, learn things readily, and then conduct matters themselves. There are large deposits of coal in China, and, with the assistance now obtained, they will very quickly be developed, so as to be of more importance than heretofore.—*Iron*.

Cholera in Europe.—Rumours of cholera from time to time remind us of the prospect of a recurrence of the disease in an epidemic form during the coming summer. The most important announcements have come from Spain, where early in April a considerable number of cases were alleged to have occurred in the province of Valencia. The statement was, however, soon followed by contradictions, and precise information on the subject has since then not been forthcoming. France, however, imposed a three days' quarantine on arrivals from Spain. Since then we have heard that a case has occurred at Osio, not far from Bergamo, and a French newspaper has reported cases at Cairo. In the meantime, the oft-postponed European Conference has again been postponed to May 15th, and it is stated that the India Office will send separate representatives. Switzerland will be represented by M. Bavier, the Swiss Minister to Italy, assisted by Dr. Sonderberger and Dr. Reali.—*Lancet*.

Birmingham.—On 30th ult. the Bishop of Worcester consecrated the Lea Memorial Church, at Birmingham, erected from the designs of Mr. J. A. Chatwin, of that town. Messrs. Jones & Willis have supplied the choir stalls in oak and the bishop's chair.

Fulham Road.—We are informed that the carriageway of Fulham-road from Stamford Bridge will be closed for a period of six weeks for the purpose of being repaved with wood-paving by Messrs. Muldoon Brothers.

New Baths at Forest Hill.—The new baths constructed by the Commissioners for Public Baths for the Parish of Lewisham at Forest Hill were opened by Earl Dartmouth on the 2nd inst. The buildings are in the French Renaissance style of architecture. There are two swimming-baths (first and second class) each 90 ft. by 30 ft., lined throughout with white glazed bricks, the depth of water being 3 ft. 6 in. at the shallow end, and 5 ft. 6 in. at the deep end. Special arrangements are made for removing the scum which accumulates on the surface of the water in all swimming-baths, by means of overflow-boxes placed at frequent intervals round the walls of the baths, these serving also as spittoons. A special inlet at the surface level of the water admits of a jet of water being introduced at this level, thus inducing a current and driving the scum down the overflow boxes. The first-class bath is specially designed so as, in the winter months, to be used for the purposes of a public hall for entertainments, concerts, &c. It has an open pitch-pine roof, and a bold gallery round two sides and one end. In connexion with this hall careful attention has been paid to the means of exit, there being no fewer than five large double doorways, the doors all opening outwards. There are also provided twenty-eight "slipper" or private baths, and the establishment is completed with the usual towel laundry, smithy, &c. A special feature of these baths are the engineering arrangements, which are of an exceedingly simple character, but are found in actual practice to adequately perform all the necessary work, such as heating the water, &c. The cost of the whole of the buildings and fittings will not exceed 10,000*l*. The architects, Messrs. Wilson, Son, & Aldwinckle, of 2, East India-avenue, Leadenhall-street, claim that these are, in regard to their size, by far the cheapest baths in London, while all necessary accommodation is provided. Similar buildings, at the same cost and from the designs of the same architects, have just been opened at Ladywell. Plans and elevations of both these baths appeared in the *Builder* for December 1st, 1883.

COMPETITIONS, CONTRACTS, & PUBLIC APPOINTMENTS.

Epitome of Advertisements in this Number.

COMPETITIONS.

Nature of Work.	By whom required.	Premium.	Designs to be delivered.	Page.
Public Hall and Institute	Slough	25*l*. and 15*l*.	June 15th	ii.

CONTRACTS.

Nature of Work, or Materials.	By whom required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.	Page.
Detached House, &c., Potter's Bar	.....	Mr. Salmon	May 11th	ii.
Making-up Roads	Wandsworth Bd. of Wks	*Official*	May 12th	xxi.
Infant School, &c.	Llanelly School Board	E. H. Lingen Barker	do.	xxi.
New Municipal Offices, Police-courts, &c.	Burnley Corporation	H. Holtom	May 13th	xxi.
Purchase of Granite Paving Stones	St. Giles's Brd of Wks.	*Official*	do.	xxi.
Re-Erection of Clock-Tower, &c., of Town Hall	Rochdale Corporation	A. Waterhouse	do.	xxi.
Sailors' Home, Well-street and Dock-street, E.	The Directors	J. Hudson	May 14th	ii.
Removal of Street Refuse	St. Giles, Camberwell	*Official*	do.	ii.
New Station Buildings	Midland Railway Co.	A. A. Langley	do.	ii.
Cleaning and Painting	do.	do.	do.	ii.
Whitewashing, Painting, &c.	Gdns. Prsh St. Marylbne	*Official*	May 18th	ii.
Boys' School and Masters' House	Chigwell School Board	E. Egan	May 19th	ii.
Painting Cavalry Barracks, &c., York	War Department	*Official*	do.	ii.
Thames Ballast and Sand	Admiralty	do.	do.	ii.
Branch Police Station	St. Helen's Corporatn	G. J. C. Broom	do.	ii.
School for Girls	Kent Weslyn Methodist School Assoc., Lim.	Ruck, Son, & Smith	May 22nd	xxi.
Enlargemnt of County-Court, Burtn-on-Trent	Com. of H.M. Works	*Official*	do.	ii.
Cottages, Watch-room, &c.	Admiralty	do.	do.	ii.
Drainage, &c.	Kingsbridge R.S.A.	H. Lidstone	do.	xxi.
Ventilating Shaft, &c.	Brighton Sewers Board	P. C. Lockwood	May 23rd	ii.
Removal of Street Letter-Boxes	General Post-Office	*Official*	do.	ii.
Sewerage Works	Colne, &c., Local Board	H. Bancroft	May 25th	xxi.
School Buildings	Christchurch Union	E. H. Burton	May 28th	xxi.
Repairs to House	.....	J. B. Smith	Not stated	ii.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.	Page.
Foreman of Footway Masons	Vestry of St. Marylbne	117*l*.	May 15th	xviii.
Surveyor	Blackpool Corporation	300*l*.	May 20th	xviii.
City Architect	Norwich Corporation	200*l*., &c.	do.	xviii.
Road Foreman	Cor. Burton-on-Trent	104*l*., &c.	May 21st	xviii.

TENDERS.

For new bakeries at Battersea, for Messrs. J. & B. Stephenson, of Glasgow. Mr. Thomas, architect, 48, Pall-mall:—

Bell, Hornsby, & Co.	£18,615 0 0
H. & E. Lea	17,613 0 0
Lucas & Son	16,661 0 0
W. & D. McGregor* (accepted)	16,500 0 0
Peto Bros.	16,486 0 0
C. F. Kearley	16,465 0 0
Perry & Co.	16,270 0 0
Cooke & Son	16,139 0 0
J. Richardson (informal)	15,541 0 0

* The sender of this tender writes:—"This is scarcely fair to London builders, as the above firms were asked to tender by the architect."

For alterations and repairs at Prospect House, Dartmouth, for Mr. R. W. Soper. Mr. E. H. Back, architect, Dartmouth. Quantities supplied:—

E. J. Henley, Dartmouth	£290 0 0
O. Veale, Dartmouth	267 6 0
B. Williams, Dartmouth (accepted)	213 0 0

For alterations and repairs to premises, Spithead, Dartmouth, for Mr. Ford. Mr. E. H. Back, architect, Dartmouth. Quantities supplied:—

H. Winsor, Dartmouth	£163 17 0
E. J. Henley, Dartmouth	161 10 0
F. Maunders, Dartmouth (accepted)	138 0 0

For additions and repairs to the White Hart public-house, Walham-green, for the London and Burton Brewery Company:—

Bridgemont	£336 0 0
John Beale	520 0 0

For erection of new workhouse buildings at Fordingbridge, for the Guardians of the Poor of the counties of Hants and Wilts. Mr. Fred Bath, Salisbury and London, architect. Quantities supplied:—

James Edwards, Southbourne, Bournemouth	£16,572 14 3
Hopkins & Son, Wilton, Salisbury	14,889 0 0
Samuel Minty, Bournemouth	13,741 10 0
W. J. & C. S. Young, Salisbury	13,259 0 0
Wm. Church, Wapping, Bristol	12,993 0 0
McWilliam & Sons, Bournemouth	12,530 10 4
Gilbert Harris, Salisbury	12,522 8 5
H. W. Jenkins & Sons, Bournemouth	12,520 0 0
John Shering, Fordingbridge	12,400 13 6
H. Vickers, Nottingham	12,250 3 1
Samuel Clarke & Daniel Hetching, Parkstone, Poole	11,983 0 0
James Ball, Cowes, I.W.	11,974 0 0
H. J. Sanders, Northam, Southampton	11,862 0 0
James Longley, Crawley, Sussex	11,680 0 0
Joseph Bull & Sons, Southampton	10,779 0 0
John Greenwood, St. John's-street, Mansfield, Notts*	10,300 0 0

* Accepted subject to omission of infirmary block, boundary-walls, general fittings, &c.

For alterations to a residence known as Perrymead, Streatham, for Mr. W. McDougall. Mr. Richard Peters, architect, 72, Wool Exchange, Coleman-street:—

T. Ennor Julian	£245 0 0
Kemp	202 0 0
Richardson Bros. (accepted)	194 0 0

For restoring building and shop after fire, 60, Clapham-road, for Messrs. Roy & Cartwright:—

John Beale	£396 0 0

[No competition

For engine-house for 100-h.p. engine, for the Tottenham Local Board. Mr. A. H. de Pape, engineer. Quantities by Messrs. Campbell & Son, Tottenham:—

	Engineer's Design.	Deductions from Engineer's Design.	Reduced Design.
J. Bloomfield, Tottenham	£2,550 0 0	£2,386 0 0	£1,874 0 0
A. Porter, Tottenham	2,277 8 1	127 7 6	1,744 5 7
H. Knight & Son, Tottenham	1,974 14 0	1,868 17 8	1,558 12 6
Williamson, Tottenham	1,987 11 2	1,866 4 4	1,543 7 0
Proctor, Woolwich	2,000 0 0	145 6 3	1,520 0 0
W. J. Hack, Poplar	1,948 0 0	117 0 0	1,483 0 0
J. Humphreys, Tottenham	1,869 2 7	102 4 8	1,463 13 11
G. Bell, Tottenham	1,891 12 0	126 7 1	1,413 12 3
C. Barnes, Ilford	1,727 0 0	1,643 0 0	1,359 0 0
Percival Hart, Tottenham*	1,761 14 6	168 4 0	1,330 14 6
W. Cornwell, Bishop's Stortford†	—	—	—

* Accepted. † Informal.

For the erection of a new Wesleyan Chapel, Bedminster, Bristol. Mr. Herbert J. Jones, architect, Bristol:—

Eastabrook & Sons, Bristol	£4,820 0 0
Stephens & Bastow, Bristol	4,600 0 0
E. T. Hatherly, Bristol	4,562 0 0
Geo. Humphreys, Bristol	4,500 0 0
H. J. Rossiter, Bristol	4,250 0 0
Howell & Son, Bristol	4,245 0 0
J. E. Davis, Bristol	4,234 0 0
W. A. Green, Clevedon, Somerset	4,163 0 0
Walters & Son, Bristol	4,124 0 0
Wilkins & Son, Bristol	4,004 0 0
Jas. Wilkins, Bristol	3,984 0 0
Geo. Willcox, Clevedon, Somerset	3,835 0 0
A. J. Bevan, Bristol	3,800 0 0
Thos. R. Lewis, Bristol (accepted)	3,790 0 0

For alterations to Nos. 39 and 40, Wine-street, Bristol, for Mr. Walter Verrier. Mr. Herbert J. Jones, architect:—

W. Church, Bristol	£515 0 0
T. R. Lewis, Bristol	496 0 0
Eastabrook & Sons, Bristol	493 0 0
G. Humphrey, Bristol (accepted)	482 0 0

For the erection of schools, Lower Mortlake-road, Richmond, for the Holy Trinity Schools Committee. Mr. S. H. Seager, architect:—

Seal	£1,446 0 0
Sims	1,350 0 0
Sweet & Loder	1,289 0 0
Rodwell	1,224 0 0
Maton	1,195 0 0
Carless & Co.	1,167 0 0

For works to be executed at 64, Milton-street. Mr. Coutts Stone, architect:—

Smith	£189 0 0
Blow	182 0 0
Shorey	150 0 0
J. O. Richardson (accepted)	136 0 0

For alterations and additions to Albert Villa, Finchley-road, for Miss Matthews. Mr. Wm. Muskett Yetts, architect, 44, Finsbury-pavement. Quantities supplied by Messrs. Franklin & Andrews:—

Prestige & Co.	£3,776 0 0
Rider	3,776 0 0
Canning & Mullins	3,760 0 0
Macey & Sons	3,738 0 0
J. W. Falkner	3,675 0 0
Woodward	3,635 0 0
Morter, Stratford	3,541 0 0
Downs	3,539 0 0
G. & J. Green, Hackney (accepted).	3,395 0 0

For alterations at the Metropolitan Music Hall, Edgware-road, for Mr. Lake. Mr. E. Clark, architect:—

Langridge & Sons	£2,560 0 0
F. Mark	3,179 0 0
C. Wall	2,600 0 0
J. Anley	2,497 0 0
Johnson & Manners	2,490 0 0
T. L. Green	2,429 0 0

For proposed Dispensary and Cottage Hospital at Beverley. Messrs. Smith & Broderick, architects:—

Grasby, Hull	£2,308 0 0
Sergeant, Hull	2,114 0 0
Simpson & Malone	2,033 0 0
H. Richardson	2,008 0 0
Stephenson & Son	1,938 0 0
Pape & Son	1,916 0 0
J. Barnes	1,908 0 0
Chapman	1,898 0 0
West	1,855 0 0
Ashton	1,757 0 0
Garbutt	1,756 0 0
Blackburn, Hull*	1,755 0 0
Capes	1,750 0 0

* Accepted provisionally at 1,725*l*. 11s. 5d., slates being substituted for tiles.

For alterations at Wellclose Villa, Wellclose-road, St. Alban's, for the Rev. Mr. Gates. Messrs. Glover & Salter, architects:—

Savage	£113 0 0
Holland	108 0 0
Austen	100 0 0

[All of St. Albans.]

For the erection of new District Hospital, at Newbury, for nine beds. Mr. H. G. Turner, architect, 1, Great James-street, W.C. Quantities by Mr. E. A. Jackson, architect:—

		A.*	B.†	C.‡
E. Proctor, Woolwich	£2,996 0 0	£184 0 0	£11 5 0	£ 27 15 0
S. Clarke, Poole	2,359 10 0	154 3 6	7 8 6	33 1 0
C. Claridge, Banbury	2,141 0 0	141 0 0	25 0 0	77 0 0
G. Elms, Newbury	2,100 0 0	128 0 0	19 0 0	45 10 0
T. H. Kingerlee, Oxford	2,080 0 0	130 0 0	22 11 6	88 0 0
H. Botsford, Newbury	2,019 0 0	135 0 0	19 0 0	74 0 0
S. Elliott, Newbury	1,996 0 0	127 0 0	22 9 0	74 0 0
E. Williams, Abingdon	1,993 0 0	133 0 0	18 7 0	51 9 0
W. Woodbridge, Maidenhead	1,990 0 0	130 0 0	23 10 0	46 10 0
G. H. Gibson, High Wycombe	1,975 0 0	140 10 10	22 3 6	47 17 4
Carless & Co., Richmond	1,967 0 0	113 0 0	11 5 0	49 0 0
W. Holt, Croydon	1,960 18 0	125 0 0	18 10 0	51 15 0
Leslie & Knight, Kensington	1,950 0 0	140 0 0	9 15 0	28 0 0
Kirk Bros., Addlestone	1,900 0 0	131 0 0	14 8 0	64 0 0
Martin, Wells, & Co., London and Aldershot	1,866 12 6	124 8 10	29 5 8	46 4 9
W. H. Simonds, Reading	1,855 0 0	117 10 0	29 10 0	101 15 0
J. Bull, Sons, & Co., Southampton	§1,768 0 0	§118 0 0	7 6 0	§25 5 6

*A. Extra for enlarging male ward for three additional beds.
†B. Extra for pitch pine instead of yellow deal floors in wards and operating-room.
‡C. Extra for oak do. do. do. do.
§ Accepted.

For shops and offices adjoining the Monument Station, King William-street and Eastcheap. Messrs. Isaacs & Florence, architects. Quantities by Mr. L. C. Riddett:—

Perry & Co.	£6,767 0 0
Williams & Son	6,647 0 0
Holiday & Greenwood	6,484 0 0
George Shaw	6,474 0 0
Simpson & Son	6,445 0 0
J. Grover & Son	6,288 0 0
J. & J. Greenwood	6,125 0 0
E. Conder	6,096 0 0
Patman & Fotheringham	5,973 0 0

For erection of house in William-street, Stratford, for Mr. Athill. Mr. J. Boyce, surveyor:—

Bulford (accepted)	£285 0 0

For re-instating premises destroyed by fire, No. 125, Hoxton-street, for Mrs. Lock. Mr. J. Boyce, surveyor:—

Bulford (accepted)	£185 0 0

For the erection of a large story over the bakehouse and workshop at the Exeter Workhouse:—

Sutton, Longbrook-street	£627 0 0
J. Kenshole, Heavitree	595 0 0
D. Reynolds, Exeter	519 0 0
J. Smith, Parr-street, Exeter	510 0 0
Scadding & Sons	490 0 0
W. Gibson, Exeter	480 0 0
Moass & Sons, Exeter	475 0 0
Plimsoll, St. Leonard's	438 0 0
Henry Phillips, Clifton Hill (accepted)	435 0 0
Garnsey, St. Sidwell's	435 0 0

For the completion of sanitary turret, &c., at the Workhouse, Arthur-street, Chelsea, for the Guardians of St. Luke, Chelsea. Messrs. A. & C. Harston, architects, 15, Leadenhall-street. Quantities not supplied:—

Balaam Bros.	£1,600 0 0
W. Johnson	1,580 0 0
J. H. Johnson	1,483 0 0
H. Haynes	1,335 0 0
Jas. Angood	1,240 0 0
J. P. Potter, Banstead (accepted)	1,150 0 0

For the erection of a house at Maidenhead, for Mr. J. Wood. Mr. Edward Hide, architect, 121, Bishopsgate-street. Quantities by Mr. Cecil G. Saunders, 5, Agar-street:—

Hayward & Son	£5,900 0 0
Howard & Son	5,895 0 0
Rider & Son	5,258 0 0
L. H. & R. Roberts	5,246 0 0
Brass & Son	5,140 0 0
Silver & Son	5,138 0 0
Stimpson & Co.	5,050 0 0
J. K. Cooper & Son	5,048 0 0
W. Woodbridge, Maidenhead	4,788 0 0

For pulling down the Bricklayers Arms public-house at the corner of Settles-street and Fordham-street, in the parish of St. Mary, Whitechapel, and rebuilding same, for Mr. W. T. Wackrill. Mr. J. T. Newman, architect, 2, Fen-court. Quantities by Messrs. Curtis & Sons:—

S. Haywarth	£1,765 0 0
J. Morter	1,695 0 0
W. Shurmur	1,692 0 0
Robt. Marr	1,655 0 0
Hearle & Son	1,642 0 0
Reed	1,497 0 0

At a special meeting of the Lowestoft Improvement Commissioners, held at the Town-hall, Lowestoft, it was reported that the Paving and Draining Committee had received tenders for 15,000 square yards of concrete pavement from twenty-five different firms. Of these seven were selected; and of these again the following were finally decided on:—Mr. J. H. Bryant (of the Patent Grano Metallic Stone Company), 5,000 yards at 4s. per yard; Messrs. Curzons Impervious Company, 5,000 yards at 3s. 6d. per yard; and Mr. A. Bidwell, Lowestoft, 5,000 yards at 2s. 9d. per yard.

SPECIAL NOTICE.—Lists of Tenders frequently reach us too late for insertion. They should be delivered at our Office, 46, Catherine-street, W.C., *not later than Four p.m.* on THURSDAYS.

TO CORRESPONDENTS.

M. P. B.—C. & C. (shall be attended to).—J. & Co.—S. S. S. (thanks).—G. P. B.—F. R. W.—L. and D.—W. H. R.—W. F. E. (it is not our custom; we receive more than we can find room for as it is).—W. D.—J. B. & Son.—J. H. D.

All statements of facts lists of tenders, &c., must be accompanied by the name and address of the sender, not necessarily for publication.

We are compelled to decline pointing out books and giving addresses.

NOTE.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news-items) which have been duplicated for other journals, are NOT DESIRED.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; all communications relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

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PREPAYMENT IS ABSOLUTELY NECESSARY.

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DOUGLAS FOURDRINIER, Publisher,
Addressed to No. 46, Catherine-street, W.C.

Advertisements for the current week's issue must reach the Office before THREE o'clock p.m. on THURSDAY.

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